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RETHINKING THE LIBRARY

in the information age

VOLUME III

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BUILDING AN INFRASTRUCTURE FOR LIBRARY RESEARCH

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RETHINKING THE LIBRARY

in the information age

VOLUME III

Anne J. Mathews, Series Editor

BUILDING AN INFRASTRUCTURE FOR LIBRARY RESEARCH

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FOREWORD

This third volume of papers on "Issues in Library Research: Proposals for the 1990s" represents the culmination of a series of studies sponsored by the Office of Library Programs. As Anne Mathews notes, the publication of this volume (and the previous ones) is intended as a guide to assist those who work in the library and information science field in defining and exploring the most effective means for advancing the role of libraries in our society.

As is the case in most publications by the Office of Educational Research and Improvement, the views expressed are not necessarily those of this office nor of the Department of Education in general. What we do share with the participants in these studies is the desire that libraries remain a vital part of our communities and our country. That professionals within the field conduct such serious and wide-ranging discussions and take upon themselves the responsibility to respond to the issues are grounds for optimism about the future of libraries.

Patricia Hines
Assistant Secretary for
Educational Research and Improvement

PREFACE

In September 1986, the Office of Library Programs launched the project, "Issues in Library Research: Proposals for the 1990s." The project investigated library and information science issues to assess the current state of the profession and identify a research agenda to lead us into the next decade.

This volume is the third in a series of summaries and discussions of these issues. The first volume lists the questions and issues raised early in the project, and the second is the collection of essays on those issues by nationally recognized library and information scholars.

This volume, Building an Infrastructure for Library Research, represents the next step of the process. Using four organizational structures developed in the summer of 1988, participants in this phase developed a series of recommendations to improve the infrastructure for library and information science research. The four papers, along with the matrix analyzed in the introduction, offer some very specific suggestions and proposals, as well as reminders of the obstacles to be faced.

Questions about the future viability of the library in the information age persist. This volume assists in guiding the library and information science field out of a speculative, self-descriptive stage toward securing its place in the information arena. The effort resulted in a vigorous, exciting set of papers that both encourage and demand -- they encourage the progress being made in defining the library's role, and they demand, through their suggestions, that the work of improving the state of librarianship be continued.

As Editor of this series of three publications, I share with the authors of all the papers an optimism about the future of library research.

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OVERVIEW OF POSITION PAPERS AND DISCUSSION

Robert M. Hayes
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Introduction

The four position papers presented in this report explore a variety of approaches to the development of an improved infrastructure for research in the field of library and information science. The four general approaches considered are reflected in the titles of the position papers:

- The Role of Professional Library Associations in Creating an Infrastructure for Research in Library and Information Science
- A Library Think Tank: Creating an Independent Center for Library-Oriented Information Research and Policy Studies
- Research Libraries or Library Consortia as the Basis for Creating a Research Infrastructure in Library and Information Science
- University-Based Models: Creating Centers for Research in Library and Information Science.

These papers emphasize the potential role of the professional sector, where the need for increasing the research effectiveness of librarians and other information professionals is most obvious. The commercial and government sectors also have vital roles to play in creating an effective structure for research, though they are not directly dealt with in any of the four position papers. For completeness, therefore, some attention will be given to them in this Introduction.

In that respect, it is important to recognize that, while every effort has been made to represent properly the views of the other participants in the summary of the position papers and the discussion of them, it is inevitable that the overview is a personal assessment, reflecting my own perceptions and interpretation of the texts and statements of the others. That is even more the case in the discussion of the roles of government and the commercial sector, since they are not even directly considered in the position papers.

The Context

First, it is important to set the context for this examination of means for improving research in the field. Each position paper comments on the societal needs that necessitate better understanding of the entire process of information production, preservation, access, and distribution. They describe the now well-recognized importance of information to modern society. They comment on the effects of technological change and of societal complexity.

As the profession still largely responsible for the design, operation, and provision of information services, librarians and their services are at the center of

this dynamic, information-oriented society. The impact of technological developments on libraries is already significant and likely to be even greater in the future. Just twenty years ago it was still possible to criticize suggestions that computers would play a major role in library operations as being whimsical and irresponsible. Today, they are used for management of library operations, for resource sharing, and for access to information bases in virtually every library, to an extent only imperfectly envisioned at that time. In the future, continued developments, both of the technology and of society, are to be expected, with effects at least as great as those of the past decades. Indeed, they will not only add to library operations and services, but will change the very concept of what a library is.

If we are to understand the emerging information society and be in a position to make intelligent policy decisions regarding the function of the library within that society, many questions must be answered; however, very few research and policy studies have been developed that communicate the importance of the library's role to external audiences. Clearly there is a need for research that not only will answer the long-standing theoretical and pragmatic issues of concern to the profession but will also bring those issues to the attention of policymakers.

The Position Papers

In recognition of the need for a new agenda for research in the field of library and information science, the Department of Education's Office of Library Programs initiated an examination of what would be needed to carry out such an agenda. High among the list of requirements is that of strengthening the infrastructure for research in the field. The view was that there is a special need to increase the capabilities for conducting quality research within the profession, its libraries, and its educational programs. To that end, a small steering committee was formed to identify a structure as the context for consideration, to commission working groups to develop papers presenting positions and alternatives, and to convene the working groups for discussion. On October 31 and November 1, 1988, the steering committee and the four working groups -- a total of 35 persons -- met to consider the position papers and to discuss their implications.

Each of the position papers in this volume describes a possible component of a national infrastructure for the conduct of research on library and information science (i.e., professional library associations, a library think tank, research libraries or library consortia, and university-based library research centers) and discusses its potential role as a contributor to that infrastructure. During the meeting, the papers were presented in summary and then discussed, both individually and as a whole. The discussion had the purpose of identifying, first, how each component contributes or could contribute to the national infrastructure and, second, what effective interrelationships could be established among them.

The flavor, the tone, of the meeting to discuss the position papers is impossible to convey in a merely factual recounting and summarization of the results, but surely it is of importance to note how exciting an experience it was. There was an intensity of work and a vigor of discussion that reflected the high level of interest and involvement felt by the participants. All were challenged by the issues and enthusiastic about the process. The result was a remarkable feeling of consensus in the recommendations arrived at.

Overview of Position Papers and Discussion

In this overview paper, the results from the position papers and from the discussion of them will be presented, structured around a matrix combining the several components and the substantive issues. The matrix is presented in the following table, of which the columns represent the components and the rows represent the substantive issues. In a sense, each of the position papers presents a column of the matrix. The primary emphasis of this introduction, therefore, will be to show the respective contributions of the components to the issues identified in the rows of the matrix.

Issues	Components			
	Associations	**Independent Institutes**	**Research Libraries**	**University Centers**
Role for the Component	Coordination Dissemination	Independent research	Institutional research	Research Education Public service
Context of Research Concerns*	Full range	Policy Applied	Applied Policy	Basic Applied Policy
Focus of Research*	Library Information	Information Library	Library Information	Library Information
Forms of Research	Full range	Full range	Full range	Full range
Values to the Component	Visibility Service to members	Identity Effect	Academic status Improved operations	Visibility Resources Education
Barriers to Implementation	Associational boundaries	Financial viability	Commitment of time	Procedures Credibility
Funding of Research*	Members' dues Private Government	Private Commercial Government	Institution Government Private	Institution Government Private
Sources of Researchers	Members Contractors	Independent researchers International	Library staff Faculty Contractors	Faculty Students International

*Listed in order of priority.

Areas of Research Need

A wide range of research areas appropriate for investigation were identified in Volume I of this series, Issues in Library Research: Proposals for the 1990s. Some of those research areas are also discussed in the four position papers included in this volume, not in an attempt to be comprehensive or prescriptive, but simply to illustrate the wide scope of problems -- theoretical, pragmatic, and policy-related -- that need to be considered. A brief list of the research issues touched on in these papers is as follows:

- The properties of information, its impact on society, its dissemination and access
- New technologies and their effect on scholarly traditions of publishing
- Access to electronic data and potential trends toward loss of information access by the economically underprivileged
- Library perspectives on transborder information technology and data flow
- Access to information services in the workplace
- Provision of health science information to the general public
- The role of information skills in education
- Techniques for information acquisition, storage, and retrieval
- Long-term preservation
- The appropriate balance of Federal, state, and local responsibility for the provision of library and information services
- The balance between governmental and commercial means for provision of information from Federal, state, and local government records.

The Major Sectors of the Infrastructure

The Government Sector

Clearly, government has a crucial role as a part of the infrastructure for research in library and information science, just as much now as it has for at least the past forty years. Through every national administration, though with varying emphasis and priority, information and libraries have been seen as important, and as a result research related to this field has been supported by the Federal government.

Perhaps the most important responsibility of the Federal government is to provide national leadership. The very fact that the Department of Education's Office of Library Programs has initiated this examination reflects recognition of this vitally important role of the Federal government in the further development of an infrastructure for library and information science research.

One role of the Federal government is to identify priorities within national goals and objectives. The research that has led to the development of information technologies has in innumerable ways been driven by requirements throughout the Federal government, and especially by those of the military. The need for scientific and technical information has been a significant aspect of national science policy and the basis for wide-ranging research in the area of information services. For example, the Federal commitment to medical research has required a comparable commitment to the information resources needed to make it effective, and to research in the area of "medical informatics." The growth of the information economy was identified at least in part as a result of governmental studies; and the need is clear for further research to support national policymaking in this respect.

Another role of the Federal government is to conduct research through its own agencies. Each of the three national libraries -- the Library of Congress, the National Agricultural Library, and the National Library of Medicine -- has historically carried out research in the field of library and information science, is doing so now, and, it is hoped, will continue and expand such efforts in the future. Preservation, computer-based access services, use of microforms for retrieval, development of bibliographic formats, applications of optical scanning to libraries, use of optical disk technology -- each of these and innumerable others reflect the contribution of these three great agencies of national government. They are in uniquely important positions in the conduct of research because of their operational roles and positions of leadership.

Basic academic research in most fields is supported primarily through identified agencies -- the National Science Foundation, the National Institutes of Health, the National Endowments. If there is to be support for basic academic research in the field of library and information science, it would seem essential to have a comparable agency explicitly identified with this field, especially in view of the lack of formal coordination among the Federal agencies with interests in this area of research.

A final though probably obvious role of the Federal government is in providing funds for research, as is now done by the Office of Library Programs in the U.S. Department of Education, through a wide range of mechanisms -- grants to foster basic and creative research, contracts to support mission-oriented research, and funding to support operational research. These funds provide the means by which national objectives can be advanced through the most effective use of the private sector, including both for-profit and not-for-profit institutions.

The Commercial Sector of the Infrastructure

The commercial component of the private sector has been a strong and valued contributor to the infrastructure of research in library and information science. Most companies within the information industries have active research programs, and the results of their research become part of the fabric of products and services

they provide. Valuable and effective research is carried out by the hardware and software manufacturers, by the commercial data base services, by the not-for-profit bibliographic utilities (the On-Line Computer Library Center and the Research Libraries Information Network), and by the wide range of information industry companies. Clearly, such research -- industrial, commercial, and not-for-profit -- will continue in the future.

The commercial sector has played a vital role in providing support to research efforts within the professional sector. The example of OCLC research support to libraries and library school faculty comes immediately to mind, but the hardware and software companies, the data base developers and service vendors, the publishers and distributors have all been active in providing funding and material support for research.

A direct role of the commercial sector is in mission-oriented research, especially under contract to the Federal government, to address information problems in agencies as diverse as the Patent Office and the U.S. Army. The rationale is that companies are able to assemble staff, resources, and facilities and risk the capital necessary to carry out major research projects, and that the necessity to provide a return on investment will assure that work will be efficiently done. Indeed, for these reasons, the commercial sector has been the predominant means for conducting organized research in library and information science during the past several years. There is every reason to expect that most contract mission-oriented research will continue to be carried out in this way in the future.

A less direct, though equally valuable and effective role of commercial companies is as subcontractors to professional agencies. The value in such collaboration is that the resources of academic and professional organizations can be readily augmented by the expertise and entrepreneurial capabilities of the commercial companies.

The Professional Sector

The need to strengthen the role of the professional sector in the conduct of research in library and information science was the stimulus for the reports presented here. The components of the professional sector served as the basis for establishing the working groups. In the following section, I will review the nature of each of the several components and summarize the related reports from each of the working groups.

The Components of the Professional Sector

Professional Associations

Certainly, the professional associations concerned with library and information science are critical components of the infrastructure for research in the field. They provide the means for communication, publication, and dissemination of the results of research. They provide the forums within which research issues can be identified and prioritized. They potentially can serve as means for influencing political policies related to research agendas.

The report of the working group on potential roles of professional associations in creating a research infrastructure for library and information science considered especially how they might collaboratively foster and disseminate research. Six models were presented for consideration and discussion:

1. Joint research projects
2. Interaction between like units of associations
3. Cooperation at the level of association presidents
4. A coordinating body representing the associations
5. A coordinating body involving government, industry, and the university community as well as the associations
6. A research foundation based on library associations.

The conclusion was that associations can indeed contribute to the research infrastructure, but they can best do so by dealing with relationships rather than tasks, by coordinating rather than doing. They thus would facilitate the functions of the infrastructure rather than being the core of it. Those kinds of responsibilities are completely consistent with each of the first five models considered by this working group. The sixth model, that of a research foundation based on the library associations, is quite analogous to that of an independent research institute, considered by the working group concerned with that kind of component of the infrastructure.

This working group developed a set of draft recommendations, principal among them being that model 5 -- a coordinating body involving a broad range of participation -- should be adopted as the mechanism for participation of the professional associations in the infrastructure for library and information science research.

An Independent Research Institute

A research institute (a think tank) focused on library and information science issues would be patterned after the numerous independent policy and applied research organizations existing in contemporary America. Such a research institute would serve to address current library problems and concerns through assessment of emerging technology, study and promotion of ideas that have the potential for affecting public policy, and improved analysis of library operational decisions. The resulting enterprise would have potential for affecting future library directions, organization, funding, and services as well as influencing the perception of the role of information services in our society.

Such an organization could be a totally independent organization or it could be associated with one or more other institutions, such as universities, professional societies, or consortia of libraries. But the report of the working group concerned with such an organization presents arguments for an independent agency; the other alternatives will be considered under each of the other reports. In particular, this working group regarded an independent research institute as making the circle of influence and contribution larger and benefiting all citizens affected by information

policy decisions. Of course, while emphasizing a wider circle of issues and interests, the independent research institute would not ignore needs within the library field itself, and the working group argues that processes of change in librarianship could be accelerated through interdisciplinary scholarship focused on wider, information-oriented issues. This conversion process demands support that may be provided only by the creation of a new, independent enterprise that will study and analyze matters of broad concern, develop workable alternatives to the status quo, predict problems before they arise, and report its learning to the nation as a whole as well as to its libraries.

Research Libraries

The major research libraries of the country represent a crucial component of the infrastructure for research in library and information science. They are the places in which significant operational problems are most likely to arise; they are sources of essential data; and they have staffs with high levels of knowledge who could provide a resource of research expertise.

The report of the working group concerned with the potential roles of the research library community considered four approaches as means to develop and/or strengthen institution-based library research within major research libraries or library consortia:

1. Research institutes
2. Visiting scholar programs
3. Cooperative research grant programs
4. Research training programs.

Each of these might be implemented in several ways, lending themselves to variations within the basic approach. Further, each already has successful counterparts. The report of this working group reviews these options in detail.

University Centers of Excellence

Universities are uniquely qualified to carry out research on the impact of information on society. They have always been regarded as the major source of disinterested, objective research in general. Research is the single dominant function of a university: its organization, its selection of personnel, its system of values, and its system of rewards all encourage the production of excellent research. With regard to information research in particular, universities are unusually well-positioned to assume a leadership position in the exploration of fundamental issues, being at the same time generators and consumers of information and information technology, active participants in planning for the information society of the future, and important laboratories in which studies can be conducted and experimental systems implemented.

The report from the working group concerned with the role of universities argues that, for universities to participate effectively in research in library and information science, new mechanisms must evolve -- specifically, university-based centers of excellence for research on library and information science. Of special interest is the potential they would have for strengthening the position and effectiveness of schools of library and information science as the focal point for

establishing such centers. The report discusses the reasons that new mechanisms are needed and the conditions that would be important for their success.

The Substantive Issues

Let us now consider the substantive issues that provide the frame of reference for considering the several components of the professional sector, evaluating how each can best contribute to furthering the development of the infrastructure for library and information science research, and what the relationships among them may be. They fall into eight major categories:

1. Role for the component
2. Context of research concerns
3. Focus of research
4. Forms of research
5. Values to the component
6. Barriers to implementation
7. Funding of research
8. Sources of researchers.

In the following paragraphs, for each of these there will be a brief characterization of the issues, with some detail and illustrative examples. Then, each of the components will be considered in terms of the implications it has for the issues or vice versa.

1. The Role for the Component

The clear consensus of the working groups and general discussion was that each of the professional components is an appropriate potential participant in the infrastructure for library and information science research. All of them could have appropriate roles to play, not as competitors but as complements to each other.

The Role of the Associations. The working group argued against placing responsibility for a research infrastructure with any single association or group of them. However, they felt that by working together the associations can make an important contribution to an infrastructure for research in library and information science. They can contribute primarily by promoting research and by disseminating results.

The challenge, then, is how to make the several library and information professions aware of their collective strength as promoters and disseminators of research. The final recommendation from the working group was that this could best be accomplished through a broadly based coordinating committee, similar to that of the National Research Council's Government-University-Industry Research Roundtable of the National Academy of Sciences/National Academy of Engineering/ Institute of Medicine.

The Role of Independent Research Institutes. The role of independent research institutes would be to carry out independent research and analysis, focusing on the study of issues affecting the future of information use in our society and on

the development of ideas to strengthen library roles and contributions. An independent institute could publish and disseminate the results of its efforts. It could function as an educational innovator, through seminars, lectures, workshops, self-directed learning modules, and counseling. It could provide means for independent assessment, developing measures of success, monitoring progress, and updating the national agenda. It could function as an integrator of and participant in library policy and research activities, not to displace such efforts but to assist and aid in them.

As a separate, independent group focused on library research and policy, with a unique orientation, focused operational base, and perspective, such a research institute could have a positive, helpful, and mutually reinforcing impact on existing research and policy groups.

The Role of the Research Libraries. Potentially, the role of the research libraries is to create research opportunities for those within their professional staff who are capable of doing research, and to reward individuals who contribute to research. Through the involvement of the host institutions and their libraries, the importance of library research would be emphasized and made more evident. The librarians themselves would appreciate the value of library research, both theoretical and applied. The program would provide means for assuring that research conducted at a particular institution is generalizable and not limited to that institution. Coordinated approaches to research on major library problems would be fostered.

The Role of University Research Centers. The university-based research center would have the role of focusing the university's broad range of multidisciplinary research capabilities on the problems of library and information science. Because it is relatively tolerant of risk, the university can support basic research. It is naturally conducive to the development of researchers and promotes transmission of research skills and traditions. It is a particularly fertile ground for building interdisciplinary relationships.

2. The Context of Research Concerns

An issue of fundamental importance is the context in which research is to be considered. Are we concerned with libraries? With information access more generally? With both? With something else? The answers to these questions are not self-evident, nor were they completely resolved in the position papers or in the discussion of them. However, the discussion showed a potential involvement of each component in each context, though probably with varying priority.

Context for the Associations. Given the specific associations identified in the report of the working group, there would appear to be a substantial focus of attention on the needs of libraries. If that turned out to be the case, of course, broader information society issues would be considered, without doubt, but they would be considered primarily for their impact on libraries. The working group, in its own assessment, suggested that "given the library and information associations represented, we believe that a focus on information access is most appropriate." The most telling aspect in support of that view is the working group's recommendation that a broadly based coordinating committee should be established. Inclusion of industry, government, and the university community as well as the associations

would almost guarantee a comparable breadth of research concern covering the full range, libraries and information access all included.

Context for an Independent Research Institute. The major rationale presented for an independent research institute is the broad context in which it would be able to function. The full range, libraries and information access, presumably would be encompassed. However, the arguments presented strongly imply increasing emphasis on the larger context, with libraries likely to be considered only in parallel with other information institutions, rather than as the primary concern.

Context for the Research Libraries. The definition by the meeting participants and the arguments presented by this working group clearly identify a focus on the library, with larger issues of information access considered, of course, but primarily for their impact upon libraries.

Context for a University Research Center. The breadth of context would in large part be determined by the setting within the institution of a university-based center of excellence. If it were associated with a school of library and information science, there would likely be an emphasis on the library; if established outside such a school, as a multidisciplinary institute, there would likely be a broader, informational context for research, with libraries given relatively minor emphasis.

3. The Focus of Research

There are a number of research objectives that are identifiable. Some research is basic and theoretical, aimed at determining fundamental truths. Some is applied and pragmatic, aimed at solving immediately identifiable operational needs. Some is societal, aimed at determining needs and roles. And some is policy oriented, aimed at establishing the basis for decisions about allocation of resources and priorities in meeting needs.

Focus of Associations. The working group, in its comments on the general discussion, stated: "As associations, we can support any or all of the research activities (academic, applied, societal, policy). We believe that the research can be opportunity based." Since the recommended role of the associations is to be coordinators and facilitators, research focus is not likely to be an issue in fact.

Focus of an Independent Research Institute. The nature of most independent research institutes suggests that the focus is likely to be on public policy, on societal issues. Indeed, the description provided by the working group for this component clearly focused on research issues of that kind. Of course, there is the potential for applied research and even for basic research, especially in support of exploration of policy issues.

Focus of Research Libraries. On the surface of it, the focus of the research libraries is likely to be on pragmatic, applied research. Most of the description by the working group certainly was consistent with that picture. Even bibliographical research, which was identified as a likely form, can be considered as means for solution of access to information in very applied ways.

Focus of Academic Centers. The primary commitment of the university is to basic research, although certainly it can do all the others as well.

4. The Forms of Research

Research in library and information science can take any of several forms, all equally valid. Some research is analytical, concerned with the structure of relationships; some is conceptual, concerned with ideas; some is empirical, concerned with the acquisition and validation of data. Some research is historical; some bibliographical; some technological.

Nothing in the position papers or in the discussion clearly identified a significant difference in the forms of research that each of the components would consider within its purview.

5. The Values to the Component

Aside from the primary values of research, whatever its context, objectives, or forms, there are subsidiary values accruing to the component itself that are worthy of consideration.

The Values Related to the Associations. As participants in the national infrastructure for research in this field, the associations gain value both for themselves, as organizations, and especially for their members:

- The associations further their roles in publication and dissemination of research.
- The associations and their members gain visibility by publicizing research efforts.
- By collaborating on activities that one institution cannot do as readily (e.g., gathering profession-wide statistics), the associations gain in effectiveness.
- The associations can add to their image of having more clout than any individual institution.
- The associations can draw on the tremendous range of talents of their members.
- The associations can increase their impact on the educational process.

Values to an Independent Research Institute. The value to an independent research institute is evident in establishing its own identity. Presumably, there would be derived value to the persons or organizations establishing it in the furtherance of their own objectives.

Values to the Research Libraries. The values to research libraries both individually and as a group are manifold:

- Individual libraries can increase the academic qualifications of their professional staff.

- The professional staff can gain academic visibility and status.
- Institutional research, given its applied nature, can improve operational effectiveness.
- The group of research libraries can increase the extent to which they can share experience and apply the results of their individual research.

Values to the University. The values to universities are summarized as follows:

- If a center of excellence were located in a school of library and information science, it would increase its status, reputation for quality of research, and basis for cooperation with other academic departments.
- The institution would increase its reputation for being at the forefront of national research.
- The faculty of the school of library and information science would gain opportunity for increased levels of research activity.

6. The Barriers to Implementation

For each of the components, there are potential barriers to filling an effective role as part of the infrastructure for research in library and information science. They include risks, difficulties in formation, concern with continuity, and financial viability.

Barriers for Associations. The risks for associations in supporting research in the ways visualized for them appear to be low. There is the potential risk of ineffective research projects by individuals, and associations do need to safeguard against having their names associated with poor projects; but even that is minimized to the extent that associations provide a forum for evaluation of research projects and approaches.

The difficulties in establishing an effective role for the associations, especially as visualized in the position paper, are great. There are problems in any effort to create cooperative arrangements among associations, each of which sees itself in terms of its own prerogatives and priorities.

The funding of an interassociation activity is clearly a barrier. It is doubtful that a significant portion of membership dues could be used to support such an activity, especially among library and information science societies. Therefore, private funding, from foundations or commercial sources, would be needed. Eventually, it is possible (though unlikely) that governmental funding could be obtained, but even then only for specific activities.

Barriers for an Independent Research Institute. The evident barriers for an independent research institute are, first, getting established; second, bringing together an adequate cadre of professional research staff; and third, assuring

financial viability through adequate basic financing and a sustaining flow of operational funds. Clearly, the risks are great with respect to each of those barriers.

Barriers for Research Libraries. There are minimal risks or even barriers in general to research libraries, either individually or as a group, in undertaking significant institutional research and in sharing the results with each other. Institutional resources are likely to be available and can readily be supplemented by grants and contracts, from both private and governmental sources, when the research project warrants. However, the great problem, almost insurmountable unless there are projects of great immediate import, is getting the commitment of time from professional staff, with their day-to-day operational commitments, to carry forward institutional research, much less to consider basic research.

Barriers for University Centers. Establishing organized research activities is an integral part of the functioning of universities. Given the procedures already in place, there are minimal risks or barriers except those already represented by those procedures. But those procedures are real barriers. Universities have established missions, goals, and orientations. Starting a new organization involves going through extensive bureaucracies, and the entrepreneurial spirit does not necessarily thrive in that atmosphere.

If schools of library and information science are to be considered as the focal points for research centers, there is a barrier in the fact that they are not well known or well respected for basic research. There is not a critical mass of strong research-oriented faculty and doctoral students in the field. Therefore, there are difficulties in establishing the credibility necessary if they are to be responsible for an effective research institute.

On the other hand, building interdisciplinary groups can be difficult because scholars have strong disciplinary ties, and for interdisciplinary work, they must be convinced that there are issues of merit. Furthermore, the reward system in higher education (tenure and promotion) discourages interdisciplinary research, research in innovative new fields, and long-range projects.

7. The Funding of Research

Funding of research in library and information science obviously can come from any of the traditional sources: the institutions themselves, corporations and other private sector sources, foundations, state and local governments, and Federal agencies. The ability of each component to draw on these sources varies, of course.

Sources for Associations. Institutional resources for the associations are membership dues, income from publications and conferences, and, perhaps, income from special activities. Those resources, though, are heavily committed to the defined objectives of the associations, and for those in the field of library and information science, research has not been a priority concern. Therefore, while to a limited extent it might be possible to draw on them, in general they are unlikely to play an important role in meeting the responsibilities identified.

Private sector funding has been obtained in support of many of the interests of the associations, and doubtless one or more of the corporations and foundations

would be responsive to a proposal for a concerted effort along the line presented in the position paper. On the other hand, governmental funding at any level is unlikely, except for specific projects.

Sources for an Independent Research Institute. It seems evident that to create an independent research institute would require substantial private investment, from a corporation, a foundation, or a group of individuals. Once established, of course, the full range of funding sources could be used for specific activities.

Sources for Research Libraries. The most important means for funding research in the academic research libraries is institutional, either from within the library itself or from the university. The problem, of course, is obtaining the commitment of time for staff to carry our research activities. For major projects, the external funding sources are all available and indeed have been extensively used by research libraries.

Sources for University Research Centers. The major source for funding of university-based research is institutional. Indeed, in terms of the requirement for faculty research productivity, it is first represented by faculty salaries and sabbaticals; it is represented by students serving as research assistants and in doctoral programs; and it encompasses the entire range of supporting resources, from libraries to computing facilities. Many basic costs are assumed by university overhead rates, and this is often a leverage point.

Most funding agencies, both public and private, are very comfortable funding universities, which are seen as stable, recognized research organizations. They have development offices with track records of generating and receiving funds. They have offices for grant and contract administration to handle the myriad of detail in obtaining such funds.

8. The Sources of Researchers

Sources Available to Associations. The primary source of research expertise for the associations is their memberships, which provides international coverage, given global representation among their members. They readily draw on academics and on practitioners (as speakers at conferences and contributors to research journals). They can also draw on private sector contractors.

Sources Available to Independent Research Institutes. An independent research institute could attract and support a critical mass of scholars of interdisciplinary composition: library practitioners, library educators, government officers, economists, historians, statisticians, and social scientists. Ideally, any such group would mix a range of levels of experience.

Sources Available to Research Libraries. Given the identified role of the research libraries in the infrastructure, the primary source of researchers for them would be their own staffs. However, beyond them is the opportunity to draw on faculty, doctoral, and masters level students and on commercial contractors.

Sources Available to University Centers. In most respects, a university-based center has the richest array of sources for researchers: the faculty, students, and professional research staff not on a tenure track. There is even an enhanced

ability to draw upon international resources, given the international brotherhood of scholars and the availability of Fulbright fellowships and visiting scholar exchanges.

The Recommendations

The ultimate objective of the position papers and the discussion of their efforts was to identify further steps that could and should be taken toward the objective of improving the basis on which research in library and information science can be carried forward, with special emphasis on the professional components. In that context, there was discussion of the audience toward which recommendations should be directed, the timing for subsequent action, and the specific items about which recommendations should be made.

The Audience

The first audience is the Department of Education, with the view that library and information science research ought to be a significant priority in the Department's program. The second audience is the profession and its associations, with the view that they are central to implementation of the recommendations presented. The third audience is the group of researchers, whatever their affiliation, since they must be responsive to the needs for research. The fourth audience is the full range of potential sources of funding -- the institutions, the private corporations and foundations, the agencies at every level of government -- since ultimately research will require their assistance.

The Timing

With respect to timing, the steering committee and the working groups ended the discussion with a feeling of urgency, a feeling that the time is right and that much can be accomplished now in establishing research in this field as a priority goal for all of the participants -- the Department of Education, the professional societies, the community of researchers, and the research libraries.

The Resulting Recommendations

The final result of the discussion was one suggestion to the American Library Association Committee on Accreditation and two recommendations to the Department of Education. The suggestion to the ALA Committee on Accreditation is in the context of their current review of the 1972 Standards for Accreditation and the associated procedures, guidelines, and requirements with respect to the Self Study and Site Visit:

> **SUGGESTION.** It is suggested to the American Library Association Committee on Accreditation that every means available should be used to increase the importance of research productivity as a criterion in the evaluation of educational programs in library and information science and that, to that end, the Standard relating to "a record of sustained productive scholarship" should be included among the Self Study questions to which a school requesting accreditation must respond. It is further suggested that the annual report from each accredited program should

include an assessment by the dean of the year's "record of sustained productive scholarship."

The recommendations to the Department of Education are as follows:

RECOMMENDATION 1. It is recommended that the Department of Education should convene an *ad hoc* Task Force to determine the role and feasibility of establishing a Research Roundtable including participation from the professional associations, government, industry, and universities.

RECOMMENDATION 2. It is recommended that the Department of Education should convene an *ad hoc* Advisory Committee to assist in evaluation concerning the research agenda in the field of library and information science and to make specific recommendations about the mechanisms for creating the infrastructure for research, with specific attention to the following:

- Implementing the steps for creating the Research Roundtable
- Developing means for establishing "Library and Information Science Research Institutes" in any of the appropriate institutional settings.

THE ROLE OF PROFESSIONAL LIBRARY ASSOCIATIONS IN CREATING AN INFRASTRUCTURE FOR RESEARCH IN LIBRARY AND INFORMATION SCIENCE

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Introduction

This task force was charged with looking at the role of professional associations in creating a research infrastructure for library and information science and, especially, examining what associations might do collaboratively to foster and disseminate research. This paper is based on a search of the literature, a review of library association responses to a request for information, telephone interviews with library and non-library professional associations, and the ideas of the task force members themselves.

Six models are presented for discussion purposes:

- Joint research projects
- Interaction between like units of associations
- Linkage at the level of association president
- Joint association coordinating body
- Joint association, government, industry, and university coordinating body
- Library association research foundation.

As discussed later, it may be more appropriate to take elements from each of these models to form a plan which will support a model identified by one of the other task forces, rather than viewing associations themselves as the primary model

type. Each of the other three task force models is structure-based, while the models described here are based on relationships which form part of the environment for the structures.

Because associations are volunteer organizations whose priorities are dictated by the concerns of either a large group of members or a small, highly vocal minority, the priority they give to research depends on the undependable ingredients of attitude and leadership. And both these ingredients can change from year to year.

While it is possible for associations to promote a better understanding of library research and to disseminate the results to a wider audience, there are several factors that tend to limit the role of library associations. By recognizing these factors explicitly, we may be able to determine roles for professional library associations that will "step around" these realities.

- *Autonomy.* At the heart of the integrity of the research process is the autonomy or independence of the researcher in making judgments with regard to the design, methodology, and other aspects of the work. When a library association is the sponsor of the research, the collective judgement of the association--usually represented by a committee -- must be reconciled with that of the researcher. Under the circumstances, the critical research judgments are at best a sound compromise. If the association seeks to promote its own research priorities, either the priorities will not be accepted or they will unduly influence the selection of research questions. Both outcomes represent a challenge to research autonomy and diminish the potential contribution that independently conceived research can make to the field.

- *Funding.* Library associations can promote research by using their influence to obtain funding for worthy research projects; however, this places the association in competition with its members for scarce research funds. From time to time this situation arises when government agencies announce competitive research grants in the areas deemed to be of national significance to the field. For the most part, associations have resisted the temptation to compete with member researchers, but they have been unsuccessful when the temptation has been overwhelming. On several occasions associations have sought advisory status with the successful research grantee. This practice seems questionable at best, since reputable researchers are already open to competent advice from associations. Further, it would be difficult for an official advisor to claim any significant degree of objectivity in reviewing the results of the research.

- *Motivation.* The desire to elevate the importance of research, while understandable, clearly relates to the politics of research. In examining this factor, the question of which research is to be elevated is an important one. The motive for elevating the importance of research relates to the political objectives of the association in relation to the external world rather than the

intrinsic merits of research. The process of selecting one or more types of research for promotion over others is much more difficult for an association to justify than for a government agency, and the potential rewards are dubious.

- *Competence.* The competence to carry out a research project differs greatly from the competence to administer, coordinate, or otherwise assure its successful outcome. Competence for an association involves financial stability of the organization, administrative continuity of its leadership, and the commitment of a cadre of members knowledgeable about research. Few library associations are capable of meeting the requirements for carrying out an extended research program beyond that of serving as a forum for the presentation of results.

- *Authority.* The authority of an association with respect to its field is not automatically transferrable to the field of research. The authority of an individual researcher stems from experience and the cumulative judgment of peers as to the quality of his or her work. Therefore, the ability of an association to influence the work of a reputable researcher is limited by the kinds of rewards that can be provided as inducements. Since the authority of the association is more diffuse than that of the researcher, the inducements must take the form of public recognition, as distinct from peer recognition or financial rewards. Here again, the selection process runs the risk of alienating some members of the research community if the process is not administered by or for researchers on the basis of the intrinsic merits of the research rather than the political objectives of the association.

These factors argue against placing responsibility for a research structure with any single association. It is even less likely that the associations together can support a research structure. The several library and information associations have typically competed rather than cooperated with each other. Each has emphasized its separateness, its uniqueness. Yet there are large areas of common concern to which each association brings a different view of information and service. Working together, the associations can be an important component of an infrastructure for research in library and information science. Their primary contribution can be to promote the support and conduct of research and the dissemination of research results.

Models for an Association-Based Infrastructure

The challenge, then, is how to make the several library and information associations recognize and value their collective strength as promoters and disseminators of research. Expecting each association to develop a mechanism for collaboration and then join with like groups in other associations is not realistic. It will probably take an outside authority or group to be the motivating force. The first three models discussed below view the task as the motivating force. The task may require funding, or funds may already exist for the collaborative effort. The final three models have parallels in the structures of other professional associations.

Joint Research Projects

In this model, a significant research project that is of interest to several library or information associations would be identified. The promoter should be an individual not directly connected to a specific association. Such a person might come from government (for example, the Director of Library Programs at the Office of Educational Research and Improvement, or the position held by Charles Brownstein at the National Science Foundation); from academia (such as a university president or provost); from industry (such as AT&T or Martin Marietta); or from a foundation. The project should be of strong interest to several associations. The request for proposals, funded by the promoter's agency, would specify that an inter-association effort is preferred. As an alternative, a member of one association might promote a research project with members of another association; however, the resulting project would probably be "owned" by the individuals rather than by the associations to which they belonged.

A project team, supported by association boards and presidents, would be named and would be responsible for drafting the proposal and for managing the project. The structure set up to manage the project could, if successful, serve as a model for future activity. Dissemination of results would follow standard routes through existing conferences and publications.

Problems with this model are that too many assumptions need to be made about identifying a project, about funding, about project leadership and administration, and about the degree of commitment or interest from association officers.

Interaction Between Like Units of Associations

A second model, which better addresses the likely interest in a collaborative effort among professional library associations, is based on promoting interaction among like units of the associations. For example, the ASIS Management Special Interest Group might coordinate efforts with ALA's Library Administration and Management Association Division to study management issues; or the ALA Standing Committee on Library Education might work with ALISE, CLENE (ALA), and the ASIS Special Interest Group on Education to study aspects of information science education. Within the smaller group, a project team could be identified to oversee the activity, which would include dissemination of results.

A difficulty with this second model is that it is relatively informal, depends heavily on individual leadership initiatives, and would not be a particularly strong vehicle for promoting broader, association-wide goals -- which would be necessary to obtain commitment and any level of resource allocation to the project.

Linkage at the Association President Level

In this model, association Presidents would be invited to meet together to discuss those concerns amenable to research that are common to their collective memberships. The meeting would be sponsored by one of the associations, but the agenda and speakers would be more broadly representative. A desired outcome of the meeting would be an agreement to work together on a project or projects, followed by the identification of individuals to whom follow-on responsibility would be delegated.

Each President would in turn inform his or her Board and membership structures of the meeting, discuss the benefits to be gained from such activity, and consider possible linkages. A particular linkage would be identified, such as the education groups of the various associations, and a proposal for joint activities would be made. A research team would develop a project, the results of which would be presented jointly either through a program or publication. Results of such an activity, given the endorsement of the parent organizations, could have more impact in the broader world of government and industry than would the activities of any one association. As other linkages were developed, the overall interaction among associations would increase.

Obstacles to following this model would be the varying levels of enthusiasm and competence of association officers, and the priorities set by the associations for their time and money. Many individuals would not be able to attend the Presidents' meetings without reimbursement of expenses. Often, the person who is elected President is not the best person to respond to research issues. The process of moving discussion, let alone decisionmaking, down an association structure where the Board and committees meet infrequently, is both time-consuming and uncertain.

This model has the same potential problems as the first two discussed above: the attitudes of professional library association memberships, the commitment of the leadership, the difficulty of getting commitment to a course of action over an extended period of time, the slowness of associations to move forward within a democratic framework, and the likely weakness of the linkages that would be formed. Given the characteristics of large volunteer membership associations, even funding seems to be only a secondary issue. If we were to start with money and provide attractive dollars to associations for collaborative research, there would certainly be individual members with interest, but there still might not be an association-wide commitment.

Joint Association Coordinating Body

A research coordinating body with representatives from each association to work collaboratively on developing research agendas, promoting them, serving as a clearinghouse for research project information, and so on, has an intuitive appeal. In librarianship we can look to the Council of National Library and Information Associations and the ALA Committee on Research as possible models. Neither has been especially successful.

CNLIA's Education Committee, as an example, was ineffective because the resources were not available to send the most informed representatives to meetings (a *local* person was usually the selection criterion), there was often a' complete lack of continuity among representatives from year to year, and the representatives usually had no authority to make decisions or commit resources.

The ALA Committee on Research serves a similar function for the multiple units of ALA. Sections from the statement of its purpose are as follows: "To facilitate research and related activities in all units of the Association . . . to encourage the establishment of divisional committees for the purpose of stimulating research; to maintain liaison with all units of the Association regarding research and related activities in the units; to identify questions regarding library service

which need to be answered through research and promote the conduct of research to answer those questions . . . ." At the most recent ALA annual conference there were 12 programs focusing on research concerns and methodology, 21 meetings of 17 different ALA unit committees, and 5 sessions for discussion of research issues.

The ALA Committee on Research, staffed by the ALA Office for Research, requires significant resources to carry out its function. Yet, it has not achieved the kind of commitment or impact that some feel desirable. As a former Committee chair responded: "Associations appear to have priorities higher than research on their agendas. It has been very difficult to convince governing boards and members that research is important."

Joint Association, Government, Industry, and University Coordinating Body

It may be that associations themselves cannot be a powerful enough coordinating or collaborative body because research is not a driving priority as seen by their members. A variant on the Joint Association Coordinating Body model may be found in the structure of the National Research Council's Government-University-Industry Research Roundtable of the National Academy of Sciences/National Academy of Engineering/Institute of Medicine. This model is described in some depth, as it could be a useful precedent for our task.

The Research Roundtable was created in 1984 to provide a forum where scientists, engineers, administrators, and policymakers from government, universities, and industry come together on an ongoing basis to explore ways to improve the productivity of the nation's research enterprise. The object is to understand issues, to inject imaginative thought into the system, and to provide a setting for seeking common ground. The Roundtable does not make recommendations, nor offer specific advice. It develops options and brings all interested parties together. The uniqueness of the Roundtable is in the breadth of its membership and in the continuity with which it can address issues.

Financial support for Roundtable operations comes from a variety of sources. Major supporters include the Sloan and Mellon Foundations. Additional funds have been provided by the Monsanto Company; several Federal agencies, including the Departments of Agriculture, Defense, and Energy, the National Institutes of Health, and the National Science Foundation; and Pennsylvania's Ben Franklin Partnership Program.

The Roundtable is guided by a 24-member Council that sets the Research Roundtable agenda and oversees the plans and activities of the working groups. In addition to this role, the Council does, from time to time, address topics directly. With the exception of the Federal agency officials, who serve at the invitation of the President's Science Advisor, Roundtable Council members are appointed to staggered three-year terms. Top Federal officials and senior industry officers are full and active participants of the Council.

Three working groups are in operation:

- *Working Group One: The Identification, Recruitment, and Retention of Science and Engineering Talent.* The Working Group developed,

over a three-year period, a discussion paper which was used as the basis for a symposium on the subject. The discussion paper was distributed widely (6,500 copies). The Working Group is now planning the next stage of activity with new leadership but with a core of individuals from the original Working Group continuing to serve.

- *Working Group Two: The University Research Enterprise.* This Group is concerned with the resources and organizational arrangements bearing on university research in the United States. It held a hearing on "Reducing Bureaucratic Accretion in Government and University Procedures for Sponsored Research." A major outcome of the hearing was the design and implementation of a demonstration project using streamlined administrative procedures for Federal support of research at several public and private universities in Florida. Through the auspices of the Roundtable, the project was designed by an interagency group of grant and financial officers. The Demonstration Project began in June 1986 and ran through September 1988; an implementation phase is now in progress.

  Working Group Two has also approached the issue of multidisciplinary research and education through a series of discussion sessions and workshops, resulting in a Roundtable publication, "Multi-disciplinary Research and Education Programs in Universities: Making Them Work." In 1988, the Working Group began a comprehensive reassessment of the entire U.S. university research enterprise, reviewing the organizational and resource structures of that enterprise as they affect the role of universities within the overall U.S. research system. The Group plans a series of workshops and conferences and the publication of a series of "white papers" to stimulate further discussion and action within the broader community.

- *Working Group Three: New Alliances and Partnerships: Enhancing the Utilization of Scientific Advances.* The Group's focus is on the ability of governments, universities, and industry to enhance organizational and institutional arrangements for promoting the cross-fertilization of ideas and increased utilization of basic knowledge and technology. The Group's activities are similar to those described for the other Working Groups.

Each Working Group has a chairman from the 24-member Council. Other Working Group members are recruited to assemble the most appropriate people for the topics at hand. Each Working Group has a general area of jurisdiction within which it selects particular topics for examination. As topics are studied, the Groups elucidate issues, identify problems and opportunities, and consider options for dealing with them. As progress is made in the understanding of a particular issue, the results are brought before the Council for its deliberation. When an area of concern is believed ready for public discussion, a means of stimulating discourse among all the interested constituencies is devised as a way of fostering broad-based exchange.

Council and Working Group members are expected to make substantial contributions of time and effort to Roundtable activities. This sometimes also involves substantial work by their staffs. The Roundtable is staffed by an office of six people plus a consultant and a summer intern. The office budget is approximately $500,000 annually.

The Research Roundtable was established as a result of recommendations by several commissions and committees that there should be an ongoing body that would stimulate and foster research, that would "dog" the issues raised by the National Research Council and see them through a process which would ensure that the issues were addressed. The role of associations in the Research Roundtable is carefully prescribed. The Roundtable does not want its own agenda controlled by the associations' agendas. The issues being addressed by the Roundtable Council and Working Groups are not discipline-oriented. Selecting members for the Council and Working Groups is a matter of finding individuals who have specific expertise rather than working through representatives of associations. When the investigation of a topic has reached a point at which the Research Roundtable wants it to be public, the staff may ask associations to provide names of people who will attend the workshops and conferences. But these people are invited in their own right, not as representatives. The participants sometimes take the information back to their associations for discussion, but, again, they bring the information to the associations as members, not as representatives of the associations.

The Research Roundtable staff, in discussing what works best in their structure, emphasized the need for the Council Chairman to be a person who can take a very active role in the affairs of the Roundtable -- someone who can be on site about one-third of the time. The level of entree that this person has is much different from that of staff, and the person brings insights that simply are not available to the staff.

Library Association Research Foundation

The final model proposed is the establishment of a research foundation by one or more professional library associations. An endowment could be built, with additional support provided by public and private grants. The board of such a foundation would be representative of the library and information science associations sponsoring the foundation. While models exist for foundations associated with individual professional associations, such as the American Nurses Association, the American Bar Association, and the National Association of Social Workers, no model has been identified that is a joint foundation of several specialty associations within the same profession. In reality, it is unlikely that library associations would commit their resources to a collaborative venture of this kind, and those associations which have established foundations have much larger membership bases from which to mount their fund-raising efforts.

The Council on Library Resources, while not affiliated with any one library or information science association, has as its focus large academic and research libraries. Unless it changes its direction, the Council cannot be viewed as a potential umbrella foundation.

The Association in the Research Environment

In considering the role of professional associations in creating a research infrastructure, it may be useful to consider the realities in which library and information science associations exist, the things that associations do well that can support a research infrastructure, and those areas where they are less effective.

The majority of library association members place a low priority on research. Librarians appear to be more concerned with day-to-day issues of funding, staffing, and programming. There is an emphasis on short-term thinking rather than long-term learning and development. Even when research is addressed, it is often of the statistics-gathering or most basic applied type. As pointed out by Jeffrey Katzer, one of the major causes for the current state of library research is that too much falls under the heading of consulting, demonstration projects, or other activities that are designed to assist information professionals with their immediate problems.

In an assessment of the association's role in improving the quality of research, Katzer has looked at the American Library Association (ALA). He concludes that two structural factors must be addressed:

- Research is not prominently advocated by the largest of the library associations (ALA). For most professional organizations research is either explicitly stated or clearly implied in their mission statements. For ALA, it is not.

- ALA's membership is dominated by practitioners and institutions. Less than 2 percent of ALA's members belong to its library research roundtable.

ALA influences or dominates almost everything we do in librarianship. The effects are felt widely in the curricula and objectives of library schools, in the attitudes practitioners have toward research, and in the agenda of practicing researchers and graduating doctoral students. Because one of the largest populations of current and future researchers is located in schools of library and information science, ALA's accreditation role can be used more effectively to support the development of a research infrastructure for this field. Ideally, what is needed is the development of a "research ethic" in the schools; a value strong enough to make quality faculty research the norm rather than the exception, and to ensure the training of practitioners all of whom are competent consumers of research and some of whom are trained in the rudiments of the research process.

ALA can significantly accelerate the development of this research ethic in the schools, through its accreditation process. Accreditation needs to be perceived by the schools as depending to a greater degree upon the research and scholarly activities of their faculties. Were this to occur, the development of future researchers would be ensured, although the process would take several years.

A change in emphasis in accreditation cannot depend upon the vagaries of each accreditation committee. Instead, to be most effective, the importance of research must be emphasized from the top. ALA needs to better communicate the importance of research to the schools. A major policy statement, followed up

by suitable "reminders" during each school's annual reaccreditation, would be very effective. Minimally, the standards for accreditation (which do include faculty scholarship), need to be translated into the self-study questions to which schools respond.

In summary, Katzer states: "The masters we serve cannot be the practitioners, simply because they set their sights too low." He believes that our future is likely to further separate the practitioner and the researcher in librarianship, that this will be inevitable as the two groups respond to different pressures that are increasingly specialized. To some extent, he regards this separation as being to the benefit of basic library research. He points out, though, that too great a separation, without adequate spanning mechanisms, is not healthy for either research or the practitioner -- a trend that is facing at least one other professional organization, the American Psychological Association.

Professional associations do things because their members -- either a large number of members or a small number of very vocal ones -- see a need for those things. Associations do not like to be told what to do, or what their priorities should be. There is no reason to believe that associations would respond to a plan set for them by an outside agency. While we may wish that the library associations would place a higher priority on research, it is unlikely that they will.

In the case of associations in other professions that have established foundations and developed offices of research to pursue research projects more aggressively, that road is not trouble-free. As an example, the National Association of Social Workers (membership 120,000) has recently established a Center for Social Policy and Practice as a result of a recognized need for research in social work. Its annual budget of $500,000 is coming in part from an endowment (still being created) and in part from funds obtained by responding to requests for proposals. Already there is dissension and conflict about the association competing with its membership (several Deans of schools of social work sit on the board) for limited research dollars.

Appropriate Roles for Library and Information Science Associations

The outcome we are seeking is to have energetic, innovative research in library and information science, and the effective dissemination of the results. What then are the pieces of the total picture that associations can best fill, collaboratively and individually?

When we looked to see what activities associations had worked on collaboratively in the past, we were able to find only a few examples:

- The White House Conference on Libraries and Information Services was sufficiently broad that there was something there for all associations, although the conference leadership was external to the associations. On behalf of NCLIS, ASIS did sponsor a series of association meetings to exchange information and ideas about the conference process and exhibits.

- The National Periodical Center discussions were spearheaded by the Council on Library Resources, but the disparate interests involved could not come to consensus.

- The copyright legislation discussions with associations were sponsored primarily by the Registrar of Copyright, although the Special Libraries Association did take leadership on some of the early talks among the associations.

- Recent reviews of the accreditation process have brought together representations of several professional associations; it remains to be seen how successful this venture will be.

Generally speaking, the associations participate most effectively when they are supportive of a structure offered by an external body. The associations can then "buy in" or not, to the extent they choose.

If an effective structure or infrastructure for research in library and information science can be established in the future, the ways in which the associations can dovetail their efforts will become more apparent. Listed below are some possible collaborative efforts, as well as activities that could be carried out by individual associations. Many of these activities are already being conducted by one or another professional library association.

Collaborative Activities

- *Developing and Exchanging Research Agendas.* Both the Special Libraries Association and the Association of Research Libraries have developed research agendas. The "Research Questions of Interest to ARL" was sent to Directors of ARL Libraries, to Deans of library schools, and to other agencies outside the ARL that are in a position to direct and encourage research activity. The ARL office is serving as a referral center to assist persons with a serious interest in pursuing one of these questions in making contact with the appropriate director of an ARL member library or an ARL staff member. The ARL office has also established itself as a clearinghouse to monitor information on research in the areas of the questions. The ARL approach is an excellent model for other associations. To the extent that it is appropriate, associations could exchange and publicize each other's research agendas.

- *Sponsoring Joint Programs at Conferences.* Significant research undertaken by an association or by another organization, such as the National Library of Medicine (NLM) or the OCLC, can be highlighted at association conferences. For a number of years, the NLM and the Medical Library Association have held a session on NLM-sponsored research (primarily intramural) at the annual conference of the Modern Library Association. For example, the work done by Nina Matheson on academic information in the academic health sciences center, in which she attempted to define the basis for a different library paradigm for the future, could

have been promulgated beyond the walls of medical librarianship more promptly and with great interest. The ASIS Research Committee has recently begun sponsoring annual meeting sessions that focus on research sponsored by the NSF and NLM.

- *Coordinating and Publicizing Information about Research Related to Libraries and Information Science.* The ALA Office for Research has as one of its charges to monitor ongoing research related to libraries, and to disseminate information about such studies to the profession. To the extent that resources are available, the Office for Research is able to perform this function. However, the focus by necessity is on libraries. More formal mechanisms could be established for sharing research findings among the associations.

- *Cooperative Efforts to Support Federal Funding for Research.* An appropriate area for collaboration among professional library associations would be in supporting the idea of, and requests for, Federal funding for research in librarianship and information science. The legislation committees of the various associations and the Washington Office of ALA could be brought into this process.

Activities of Individual Associations

The following approaches to promoting and disseminating research in their professions were described by the associations surveyed by the task force:

- Providing a forum for the presentation of research results through scholarly publication and conferences (most associations)

- Providing small grants or scholarships to help defray the out-of-pocket costs of conducting research projects (SLA, ALISE, ACRL)

- Promoting a limited number of research topics, seeking proposals for addressing the topics, and then awarding small grants to the most innovative proposals (American Dietetic Association)

- Conducting workshops or clinics to teach research skills (ACRL)

- Establishing structures, within the organization, whose purpose is to promote and stimulate research (association committees on research)

- Providing competitions or conferences aimed solely at promoting research (ASIS)

- Establishing a forum for discussion among researchers (ALA)

- Highlighting the research of doctoral students (ALISE, ASIS).

Summary

There is no one model for working together collaboratively that can be followed by professional library associations to foster research and disseminate the results of that research. Because of the volunteer membership nature of library and information science associations, the needs of their members drive their priorities. Since the very large majority of the members are practitioners, research is not generally a high priority. Because the associations generally try to be democratic in their decisionmaking, action is often slow, diffuse, and cumbersome. Apart from individual efforts, as outlined in this paper, the most useful role for associations will lie in filling important niches in whatever infrastructure is ultimately developed for library research. Of the models outlined in this paper, the associations would best play a role in a structure such as that exemplified by the NRC Research Roundtable.

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Associations Surveyed

American Association of Engineering Societies
American Bar Association
American Dietetic Association
American Institute of Architects
American Nurses Association
American Society for Information Science
Association of College and Research Libraries
National Association of Social Workers
National Research Council
Public Libraries Association
Special Libraries Association

A LIBRARY THINK TANK: CREATING AN INDEPENDENT CENTER FOR LIBRARY-ORIENTED INFORMATION RESEARCH AND POLICY STUDIES

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Background

"Think tank" is a popular term for which there is no simple definition; there are as many variations in form and purpose for think tanks as there are for libraries. Webster's New World Dictionary considers the phrase "think tank" a slang term. Yet, for purposes of discussion, the term is useful because it brings to mind the names of particular institutes whose work exemplifies the research ideal: excellence, prestige, authority, competence, independence, to name but a few. These characteristics of contemporary think tanks make them unique and afford them a place of distinction in the research environment.

Think tanks, sometimes called "brain trusts," have been in existence since the late 19th century, functioning in the area of social welfare. Early think tanks -- such as the Russell Sage Foundation, established in 1907 -- were endowed with private capital and charged with alleviating problems of the poor. After World War I, technical experts were hired by the U.S. government to assist with economic and management problems. The Brookings Institution was started during this period. Another type of think tank, perhaps the most familiar, is the defense-related organization, as exemplified by the RAND Corporation.

During the 1960s, in line with the agenda of the Great Society, many think tanks shifted their focus from defense concerns to nonmilitary and private sector issues. This change of emphasis, combined with the proliferation of new government agencies, resulted in the creation of many new groups. Finally, within the past decade, there has been a "blossoming of tankery."

The proliferation of think tanks in recent years has been attributed to two factors. First, a "new breed" of think tank has been created to be "politically purposeful." Its mission is to support the new conservative movement of the Reagan administration, or to fight it. At the same time, the established tanks

continue to broaden their scope in order to join the policy debates. The result has been a competition among think tanks for public policy influence.

Two important questions have been raised about the current role of think tanks: What is the effect of the billions of dollars spent each year on research, analysis, and recommendations? And, if think tanks did not exist, would they have to be created? Smith, in his examination (cited by Linden in an article published in Town and Country magazine), has concluded that "at the least, think tanks confirm changes that are already afoot . . . at the most, they help define the boundaries of realistic public debate." They are "catalysts in the shifting American scene."

There have been several studies performed by think tanks that have relevance to information policy issues and are library-oriented in nature. Two studies, by the Conference Board and the RAND Corporation, can be used as examples to illustrate the role and function that a library think tank might fill.

The Conference Board

In the early 1970s, three organizations -- one in Japan, one in Europe, and the third in the United States -- undertook studies which sought to present an overview of information technologies, industries, and resources in strategic terms. The Conference Board sponsored the American study, entitled Information Technology -- Some Critical Implications for Decision Makers. The report, which was compiled from papers submitted by an interdisciplinary panel of 42 experts, focused on the implications of information technology for business, education, political institutions, and the individual.

The Conference Board is an independent, nonprofit business research organization. Founded in 1916, its sole purpose is to promote "prosperity and security by assisting in the effective operation and sound development of voluntary enterprise." It serves a membership of more than 3,200 corporations and chief executive officers throughout the world. It conducts scientific research in the fields of economic conditions, marketing, finance, personnel administration, international activities, public affairs, antitrust issues, and various other areas. Associates may consult the Board and its research staff for additional information relating to specific publications or on any management subject.

The information technology study was commissioned by the Senior Executives Council under the chairmanship of Robert O. Anderson. The special research project was undertaken to identify "the more compelling issues" that called for immediate policy-level attention, and to suggest some of the ways in which business leaders could begin to do something about the issues. The driving need for the Council was to develop suggestions that were timely, effective, and in the public interest.

The task was assigned to a research team, directed by two professors in the Graduate School of Business of the University of Texas. Five chairmen prepared background papers, published in a main report, identifying the issues emerging from the report which they felt required prompt attention. Additional input was provided from a group of 13 chief executive officers who submitted their own recommendations. The team leaders formulated a series of possible initiatives, which were

then grouped into three main categories: policy questions, the most effective applications and uses of advanced improvement in communications, and the development of information technology as a strategic resource. One of the initiatives called for the creation of an independent, nonpolitical center with the capability to formulate alternative national policies in the area of information technology.

The RAND Corporation

Located in Santa Monica, California, the RAND Corporation is the largest of the think tanks. It has a staff of 1,000, with more than 500 full-time researchers. Its budget for 1986 was reported to be around $6.4 million, 85% of which was derived from the Federal government. Its largest customer is the U.S. Air Force.

The RAND Corporation was recently commissioned by planners of the State of Change Conference to prepare a background paper. Because of the importance of the subject, the planners were reported to have engaged the think tank to do the research with a belief that the RAND Corporation would be able to define the questions, create a methodology for exploring them, and present a fresh approach to long-standing problems. The document produced by RAND, entitled Public Libraries Face California's Ethnic and Racial Diversity, was well received by conference participants but has been severely criticized by others. For example, Tarin maintains that the RAND Corporation "was no better equipped to study libraries than others who have tried."

In both of these examples, the problems addressed by the think tanks were library-oriented information policy issues, yet both were addressed primarily by outsiders. In the case of the Conference Board report, the library and information science research community was not included in the process of its development, although the issues addressed have direct relevance to the field. In the second case, the RAND think tank was used as a consulting agency because there is no research organization with such capabilities that exists for the library community *per se*.

Description and Rationale

This paper proposes the establishment of a library-oriented think tank, patterned after the numerous independent policy and research organizations existing in contemporary America. Such a research organization would serve not only to address current library problems and concerns but, by means of interdisciplinary studies, to move the concerns of the library and information science community regarding society's need for access to information more effectively into the arena of public policy debate. The resulting enterprise would have the potential for affecting future library directions, organization, funding, and services, as well as influencing the perception of the role of information services in our society. The organization would be established as a tax-exempt, nonprofit educational foundation and classified as a 501(c)3 by the Internal Revenue Service.

The rationale for such an initiative comes from a number of pressures at work in our information society. First, the continuing explosion of knowledge, now available in a multitude of traditional and technologically advanced formats, confronts most libraries with difficult choices. While library and information

services are at the center of our dynamic, information-oriented society, the profession lacks visibility with scholars in other disciplines and decisionmakers in public policy arenas. Very few research and policy studies have been developed by the field for external audiences. Notably lacking are substantive library-oriented studies on compelling issues such as:

- Promoting the interests and rights of the information user in our society, including open and equitable access, privacy, safeguarding ownership of intellectual property, and resisting censorship
- Introducing and using new technology within the traditional values and philosophies of American librarianship
- Understanding and enhancing the role of information and knowledge in the learning process, especially the role of information skills in education and research
- Strengthening the role and contribution of the library profession in tomorrow's society, which will have dramatically different demographic characteristics (age, economic status, ethnic background, etc.)
- Addressing the problems of building bridges and channels for connecting the increasing variety of available information and knowledge bases
- Improving the workforce by attracting talent to the profession and capitalizing fully on the contributions of these individuals
- Balancing Federal, state, and local responsibility for the provision of library and information service.

As the profession largely responsible for the design, operation, and provision of information services in an information society, librarians have been communicating primarily with each other on these issues. It is time that those who will be most affected by library and information policy decisions be concerned, before it is too late to take appropriate actions. A library think tank would serve to enlarge the circle of influence by drawing from the best intellectual resources of the library and information science field.

In acknowledging this wider circle of issues and interests, the think tank would not ignore needs within the library field itself. The process of change within librarianship would be accelerated by creating a broader perspective through a team of interdisciplinary scholars focused on information-oriented issues. Transformation of traditional libraries into information centers serving the precise needs of a diverse array of users calls for bold steps by libraries. This conversion process demands support that can be provided only by creation of a new enterprise that will study and analyze matters of broad concern, develop workable alternatives to the status quo, predict problems before they arise, and report its findings to the nation's information professionals.

Secondly, the existing research in the field has a number of critical shortcomings. In a recent article, Revill has articulated some of the reasons frequently given for the underutilization of library research results. These include:

- Relevant reports are often hard to find.
- The research tends to prove what is already known.
- The research is presented in terms that cannot be understood by those it is intended to assist.
- The research ignores practical needs.

A library-oriented think tank would address these concerns directly by providing a central, authoritative source for research; commissioning studies based on the expressed needs of its clients; and presenting new knowledge in language familiar to the library and information science community. Further, a think tank would serve to complement existing organizations and provide a perspective and approach not currently available.

Third, the profession lacks a "critical mass" of researchers in any one organizational structure. A think tank would generate what much of our research and policy studies currently lack -- continuity in the form of an ongoing presence. It would provide the ability to plan for the long term as well as the short, and to develop strategies and tactics for long-range change. In addition, a think tank would provide the ability to mount a quick response to unanticipated opportunities and developments; it would have an information base of its own concerning library and information data, trend analysis, and identification of potential researchers and practitioners in relevant areas of the library field.

A think tank would have to be flexible and able to respond to a changing agenda in order to survive and flourish. Flexibility will be crucial given the rapid development and emergence of information technology and issues. Finally, the think tank would draw upon a variety of resources to address issues without being subject to the constraints of other institutions within the library and information science research environment, such as making a profit, maintaining an enrollment, or satisfying a membership agenda.

Purpose and Function

The primary purpose of a library-oriented think tank would be to raise the right questions to promote a better understanding of the problems. This organization would assist in the discovery of objectives as well as alternatives and suggest the positive and negative implications of those alternatives. Its findings would then be communicated to governments, libraries, professional associations, and institutions of higher education. In short, a think tank would generate ideas to help improve the use of knowledge in society. This purpose would be defined through a variety of functions, including research, education, dissemination of information on key issues, and assessment of progress in addressing information problems.

First, of course, the think tank would need to attract and support a critical mass of scholars. This group would be characterized by its interdisciplinary composition: library practitioners, library educators, government officers, economists, historians, statisticians, and social scientists. Ideally, the group would mix senior, middle, and junior levels of experience.

Ideas are generated through the primary functions of research and analysis. The think tank would focus its energy on the study of issues affecting the future of information use in our society and on the development of ideas for strengthening library roles and contributions. These pursuits would require a capacity to investigate problems; to digest, synthesize, and adapt current thinking to the problems; and to generate fresh and innovative solutions.

It is also critical that a think tank be active in publishing and disseminating the results of its efforts. Finding ways to inject ideas into the mainstream of library practice and to influence decisionmakers will call for a number of activities, including the production of reports, journals, newsletters, op-ed page articles, press releases, books, and educational material. These products could also serve as educational materials to be used in conjunction with sponsored seminars, lecture programs, and similar outreach activities.

A final function is assessment. The think tank would need to assess the progress of the library profession toward a dynamic future. Finding measures of success, monitoring progress, and updating the nation on this transformation would be a continuing responsibility of the enterprise.

To be successful in achieving these functions, the think tank should also function as a successful integrator with -- and participant in -- current library policy and research circles. Its purpose would not be to displace current efforts but to assist and aid in them. For example, the library projects funded annually by the U.S. Department of Education provide excellent input on the current practical developments in the field. The ALA Strategic Plan, research program, and legislative program help define the profession's view of needs, issues, and directions, as do similar efforts of the MLA, SLA, and other associations. ARL contributes by providing information on the scholarly community; OCLC, RLIN, NCLIS, and NAC are natural sources for numerous information technology developments, trends, and issues. Areas of development identified in studies and research supported by LCR and other foundations also help focus efforts. Library school research can initiate topics for many of the think tank studies. Generators of library statistics can provide the basis for many statistical and trend analyses. As a separate group focused on library research and policy, with a unique orientation, focus, operational base, and perspective, such a think tank would thus have a positive, helpful, and mutually reinforcing impact on existing research and policy groups.

Organization, Management, and Funding

Organizationally, the think tank would comprise a group of project- or issue-oriented resident scholars. This group could be supplemented by adjunct scholars as required. A small administrative staff would conduct fund development, coordination, public relations, and project planning.

A reputation for objective, authoritative, and outstanding work must be achieved through a balance both in staffing and in governing and advisory groups. In order to represent the diverse needs of information users, this think tank should not be an "establishment" group. The governance structure should allow for a balance of representation from various geographic areas, types of libraries, and public policy concerns. Trends and issues advisory groups might help leading professionals play a role in setting research and policy agendas, but opportunity should also be provided for the staff to identify and pursue issues on its own. The governance structure should work to assure organizational responsiveness and accountability. A governing board, for example, could hire the head of the think tank, set major policies, and review organizational performance.

Funding for the think tank would be a major determinant in the long-range success and durability of the enterprise, and the source and nature of funding would also influence its overall direction. Initially, the funding strategy could be based on a mix of revenue streams, including government support, foundation grants, research project grants, individual and corporate gifts, sale of publications, and fees from seminars.

Potential Advantages and Obstacles

The creation of a new applied research organization could build a bridge between operational needs and interests and the pressures that are changing the character of information exchange in the world today. A new organization would stimulate analysis of current dilemmas as well as provide a source for new ideas and innovations. The think tank would focus attention on information issues from a library perspective, in a way that other organizations have not. Such an applied research organization could produce studies that simply cannot be approached today with available capabilities. Assembling a community of the best thinkers with expertise from diverse disciplines would create a fresh reservoir of ideas and policies to shape the future of libraries and information services.

The library and information field, for its large size and diversity, has a very spare infrastructure. Library schools, professional associations, and, more recently, networks have provided most of the external support for library research and development. Current research programs, however, must operate within the exigencies of teaching and the competition for institutional budgets. The success of networks and associations illustrates the need for a research infrastructure to address current problems. The think tank might be the first of several new, emerging, and needed library support groups. It would play a significant role as one of the first efforts directed toward communicating our professional achievements, concerns, and needs to the broader community through an ongoing presence in the research and policy development arena. Most importantly, it could serve as a key component in the developing research infrastructure of library and information science, and it could act as a catalyst for action.

Obstacles to the establishment of the library think tank are evident: money, people, and commitment. Securing the essential resources for creating the new enterprise would offer the biggest challenge. Competition for funds is tough. Availability of the type of talent needed for this approach is also limited. Without some assurance that money and people would be available, the initiative would be

grounded. Beyond these essential ingredients, however, there are obstacles such as "turf wars" with established organizations (foundations, university-based library schools, associations, etc.). These organizations would need assurance that the proposed purpose and functions would complement -- not compete with -- their efforts.

Implementation

The think tank could be started in several ways. A modest approach would be to organize the think tank and hire a director with office support staff augmented by visiting scholars supported by grants for specified projects. While this effort was underway, funds could be sought for permanent operation. The abundance of services and clientele supported by the library field might open doors to a wide variety of foundations, including some not usually tapped for such efforts. For example, the issue of information services in the workplace might attract funding from industry; research on the information needs of children could be supported by foundations geared toward education and children; and so on. The Department of Education might be able to underwrite some of the initial organizational effort through startup grants.

An alternative approach would be to begin on a larger scale by seeking a significant funding base, so as to configure the aforementioned critical mass from the start. In this approach, ongoing support for the governance structure would be secured at the same time. In choosing an approach, it will be useful to explore the origins of leading groups in other fields, similar to that envisioned for library and information science.

Some of the component costs that would be incurred in either approach include: (1) director and modest support staff with benefits, (2) support of governance structure, (3) initial support for office facilities, equipment, and operating expenses, and (4) support for visiting scholars and practitioners.

The first step in the implementation would be to appoint a study committee to refine the concept of an independent nonprofit library think tank, assess its feasibility, and develop a detailed working plan with an estimate of operating costs.

Conclusion

This task force recommends establishing a private, nonprofit organization -- a library think tank -- devoted to research, education, and communication on important issues affecting the future of libraries and information science in our society. The principal purpose of the organization would be to anticipate and shape the changes taking place in the way information is used. This new organizational framework would interact effectively with our current infrastructure and respond rapidly to the demands of a changing information environment.

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RESEARCH LIBRARIES OR LIBRARY CONSORTIA AS THE BASIS FOR CREATING A RESEARCH INFRASTRUCTURE IN LIBRARY AND INFORMATION SCIENCE

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The Models

In order to develop or strengthen institution-oriented library research within major research libraries or library consortia, four possible approaches may be considered:

- Research institutes
- Visiting scholar programs
- Cooperative research grant programs
- Research training programs.

Each of these might be implemented in several ways, as they lend themselves to variations within the basic approach. Further, each already has successful counterparts.

Research Institutes

The research institute is conceived as an independent entity within a large research library or consortium of libraries. Library research might be supported through one institute or through a small number of institutes distributed regionally, perhaps with designated areas of specialization. There are equivalents at universities throughout the nation, conducting research and performing research-related activities in diverse fields.

Research institutes are established to serve as centers for the exchange of ideas, carrying out and disseminating research on significant relevant issues. The scope of interests within an institute can be narrow or broad, depending on the intent of its creators and the extent of its resources. Funding is generally provided

by foundations, corporations, government agencies, or individual donors, and the research supported by the institute is often focused on solving specific problems of interest to the agencies which supply its funding. A significant portion of the institute's resources is used to support faculty research. Most often, the institute is housed in a particular school of a university but draws on faculty members, research scientists, and graduate students from other parts of the institution. Many research institutes also publish journals, as well as other research reports.

The activities of a research institute for library and information science might include:

- Conducting large-scale research studies funded by professional organizations. The results of these studies would be published and widely disseminated in the library and educational communities and in the public sector. Such studies do not exist now under professional association sponsorship. This would be a new role for the associations.

- Supporting ongoing research in improving and extending library services. These efforts might result in a series of working papers that eventually would be published in leading journals.

- Publishing a periodic journal. The journal, edited by a member of the institute, could fill a perceived gap between academic research and issues faced by practitioners in the library and information professions. This activity should be considered cautiously, however, to avoid proliferation of publications. It might be preferable to publish refereed work in established journals.

- Conducting a series of sponsored roundtable discussions on contemporary issues of concern to the library community. Groups of practitioners and academics would address these issues in a series of all-day sessions, and the results would be published in short monograph form and circulated.

- Conducting conferences and seminars for senior administrators and executives from library, professional, governmental, publishing, and industrial/corporate organizations to disseminate important findings and to discuss emerging problems in the library and information fields.

- Providing expert assistance to local libraries (similar to agricultural cooperative extension services) in implementing the results of applied research, and helping locally conducted research with institute expertise.

- Providing consultants to assist libraries in addressing managerial and operational issues, and establishing a locus of service to library directors as they address the challenges before them.

- Providing a facility to assist librarians, library school faculty, and graduate students in their research efforts through workshops and other educational programs.

Of the four approaches, or models, considered here, the research institute would probably be the most costly, because it entails assembling at least a small number of dedicated staff to start up, and then requires a certain amount of staff time to develop project ideas and write funding proposals on a continuing basis. These costs would be borne by the institute. In contrast, in the other approaches, the latter costs would be borne by individuals or institutions competing with each other to participate in the programs. Thus, although the total costs might be approximately the same for all four approaches, the specific program administration costs would be higher for the research institute, because the proposal writing costs would be part of the institute's operating costs. Some economies might be effected by integrating the institute with the school where it is located, making joint appointments and taking advantage of existing staff.

Visiting Scholar Programs

Visiting scholar programs would work like the Fulbright Fellowship Program. Researchers interested in library-related issues could compete for funding in a highly prestigious program where they would serve as fellows in a host library or information-related institution. Participation could be open to postdoctoral or doctoral level scholars, recognized experts, or experienced researchers. They would be required to propose a well-formulated, competitive research project that would be submitted to a panel of experts for review. Those submitting the strongest proposals and who have excellent credentials would be granted funding to serve in residence at a predetermined host library of their choice. While in residence, they would not only undertake the study they had proposed, but also would be expected to train librarians on staff to conduct similar research. As part of the program, the host institutions would have to agree that their own staff members would also be available for serving on research teams in such capacities as data collectors or literature reviewers so that they could get first-hand experience with such scholarly pursuits. The researchers' own institutions would have to be willing to release them for one year, in a manner similar to the Council on Library Resources (CLR) Management Intern Program.

A model for this program exists in the OCLC visiting scholar program. Other models exist in the research residency programs of many universities and other institutions. A difference in the visiting scholar program suggested here is the selection of the host site by the applicant scholar. This has several advantages. It distributes the prospective research sites among libraries and consortia with the interest and need. The host site would display a degree of commitment to the work of the scholar by participating in the proposal at least to the extent of agreeing to serve as the research site. The staff capabilities and facilities of the host site would be evaluated and assured as adequate as part of the proposal review process. A strength of the visiting scholar program would be the distribution of research and benefits among a potentially large number of host institutions.

A possible disadvantage of having the scholar select the site is that sites with the interest and need might not have an opportunity to be chosen if they were not considered by an interested scholar. This could be obviated by a registry

maintained by the program administrative agency, listing all of the qualifying or interested sites. Alternatively, the administering agency might select sites and request proposals for research and training to be conducted at those sites. Finally, the review panel might suggest other sites.

Cooperative Research Grant Programs

The Council on Library Resources makes a limited number of grants each year to support research projects proposed jointly by librarians and members of faculties in library science or, when appropriate, other pertinent disciplines. The purpose of the program is to stimulate productive communication between teaching faculty and librarians; encourage librarians to develop more fully their research skills; and increase the quantity and improve the quality of research and analytical studies related to library operations. Grants are limited to a maximum of $3,000 and are intended to fund incremental research costs only. A final report is required, and grantees are encouraged to disseminate their research results through scholarly publications.

Using the CLR program as a model, such cooperative projects could be expanded on the campuses of research institutions, promoting the involvement of scholars from other disciplines working closely with research library staff. These projects could further the library's role on campus as a research laboratory and contribute to the literature both within librarianship and in other disciplines. Funds for such research would be available to support all aspects of the work being performed, including research staff, support staff, equipment, field costs, and indirect costs.

Like the visiting scholar program, this approach has the appeal of allowing the researcher and the host library to "find each other" and address a set of concerns, demonstrate commitment, and qualify according to evaluative review criteria.

Research Training Programs

The goal of research training programs would be to improve the research skills of a select cadre of mid-career practicing librarians, carefully chosen for their commitment to research libraries and their strong potential for leadership in the profession. In a model drawing on the most successful attributes of the UCLA Senior Fellows Program and the American Management Association and Harvard Business School short courses, this hand-picked group of librarians would be brought together for a program of up to one month of accelerated and rigorous coursework on research methodology and statistics, combined with participation in a research practicum sponsored by the host research library or consortium. By the conclusion of the program, each librarian would be expected to have prepared a draft of a small-scale research project that could be completed over the next year at the home institution. A followup session in six months might be used to check progress. A one-year reunion would allow the participants to exchange information and experience gathered in their local research projects and would provide a means for evaluating the program. If the program was found to be successful in developing research skills and increasing an appreciation for the value of research as a tool in the library planning process, it could become a regular event. In some respects, this program would also resemble the Association of Research Libraries Consultants Training Program, in which a small number of outstanding practitioners are selected

for training. This group then forms a cadre of individuals who are available for specific consulting assignments in their fields of specialization.

The limitation of this approach is in the conflict between the research interests and regular work assignments of the trainees. When the trainees return to their home institutions, the pressures to attend to business as usual may be difficult to resist unless there is a firm commitment in spirit and resources--release time and support staff -- to permit the trainees to conduct their research training assignments. Further, when their research projects are completed, there will need to be strong and continuing motivation to pursue additional research. There is the risk in this program of training a number of librarians in research methodology, to have it applied to only one project. There may also be some question as to how much research methodology can be learned in one month, although the training period could be extended or offered in basic and advanced segments.

Anticipated Benefits and Problems

In all four of the above models for a research infrastructure based in research libraries or library consortia, there is a training or educational component that extends the experience of the research to library staff or management. This multiplies the impact of the research program support by expanding the base of individuals familiar with sound methodology and committed to the value and usefulness of results.

In all four approaches, the program design might be initiated and developed within the Office of Library Programs by staff of the Office, or it might be assigned by contract to an individual or organization outside the Department of Education. Similarly, the programs themselves might begin operating with an agency-based infrastructure and then move to an institutional setting for continuing operations. Research topics are seen as emerging from institutional problems in need of solution, or as being driven from the outside by an interested agency.

Other disciplines have much to offer librarianship, and specialists in diverse fields should be engaged to participate in library research. The behavioral sciences, for example, can bring insights into patterns of library use, how individual patrons define and satisfy their information needs, and what strategies might be best for providing information. Operations research specialists can bring mathematical rigor to problems in service, scheduling, and areas of library operations. Economic and financial studies might bring better understanding of the budgetary processes of library service, with the aim of strengthening library funding or bringing greater control to the allocation of library resources.

Public service industries and organizations such as banking, hospitals, police, firefighting, social welfare, and food service have successfully applied, operations research and research in the social sciences to their problems. The library research infrastructure should accommodate and encourage interdisciplinary research into library problems, taking advantage of other disciplines and professions, but ensuring that librarians play an active role in defining and conducting the research.

The specific problems anticipated in the various models described above are discussed in the following paragraphs.

Funding

If library research is to have a significant impact, it will require a correspondingly significant commitment of funds. These funds must not only cover the expenses involved in the conduct of research, but must also support the presence of the researcher in residence in that program. The costs may be considerable if research is to extend over a significant period of time and if it is to encompass a large number of sites. In addition, there is the cost of release time for librarians to conduct and continue their research once the visiting scholar is gone or the research training has ended.

Librarians involved in research may not be able to carry out all the duties with which they are currently involved, and some provision must be made for coverage of these areas. It would be advantageous to target faculty who have ongoing responsibility in the area(s) the research explores, as this should keep release time down as well as add to acceptance of the research project and its results.

Time

A central component in each of the four models involves librarians conducting research or working with a primary researcher and, later, sustaining the research activity. The importance of sufficient time for the librarians, who have other and demanding responsibilities, to conduct research cannot be overlooked. Research can be an all-encompassing endeavor and cannot be approached as routine work. Providing ample release time is not simply a funding issue; rather, it will be crucial if the librarians involved are to have sufficient time to think, to plan, to analyze -- in other words, sufficient time to do research.

Education

The training and qualifications of the librarians to do research will be an issue, particularly because, some will maintain, the Masters degree in library science is not a "research" degree. While it may not be necessary that one have a Ph.D. degree to conduct research, a knowledge and understanding of research techniques is essential. The individuals assigned to work on research or participate in training should show some evidence of research familiarity or aptitude.

Continuity

Under the visiting scholar, cooperative research, and research training programs, the research would be conducted for a limited period of time, suggesting an emphasis on short-term research. More benefit is likely to be derived, however, from substantive, ongoing research -- research which cumulates and builds upon earlier work. The research institute, with its fixed, institution-based infrastructure, lends itself more to this kind of continuity. Although all of the models provide for the training of librarians to conduct or continue the research process, there is inherent discontinuity when responsibility and direction of a project are shifted from one individual to another and when they are not permanent elements of job responsibility.

The Role of Research in the Academic Library Community

While there may be relatively little disagreement on the need for research to underpin the discipline and practice of librarianship, finding the appropriate niche in the structure of the profession is difficult. Librarians are considered participants in the production of scholarly information, but they are rarely given sufficient opportunity to make significant contributions. Even in instances where academic librarians are accorded faculty rank, they struggle to find the time needed to do research. It would appear that we value the status more than we value the results of the research process. Research is virtually unheard of in the public library, despite the immediate availability of rich resources readily at hand in the larger of such libraries. What we are suggesting is that determining that research has value and setting a research agenda are only two legs of the stool. Until we create research opportunities for those in the profession and reward individuals who contribute to our base of research, we cannot hope to make a positive change in the environment.

Host institutions and their various components will have to accept and understand the importance of library research, and also the importance of librarians doing research. This may be easier at those institutions where librarians have faculty status, but it is likely to be a problem generally. Librarians themselves must appreciate the value of library research, both theoretical and applied. To be fully accepted, the research and the methodology must be in keeping with the mission and goals of the institution where it is conducted. Real care and thought must go into identifying projects for research if the endeavor is to be considered worthy of support by the larger library (and university) community. If this is not achieved, the benefit of the research will not be fully realized.

Privacy

Much valid library research to be conducted lies in the area of public services and may require substantial contact with users of the library. A very real problem, unless appropriate safeguards are maintained, could be intrusiveness of the research project on the clientele of the library. If this occurs to any significant extent, the benefits could be outweighed by the disruption which would occur.

Scope

The models suggested here might be biased toward, and therefore encourage, institutional rather than multi- or cross-institutional research. A goal of the programs is to produce research that can be applied within the host institution. This, however, is not by any means the sole aim. Rather, research conducted within a host institution is intended for application within the broader realm of the library community. It is crucial, therefore, to establish that research conducted at a particular institution should be generalizable and not limited to that institution. It is also important that librarians not succumb to a "not invented here" mentality -- that they build on the research of others rather than repeating investigations performed elsewhere.

Coordination

There is a need for a coordinated approach to research on major library problems. The models described here may foster isolation if there is inadequate coordination of the research being done at various locations. Coordination, which could be handled through the funding apparatus, will be essential if there is to be a unified approach to library research. A related problem, created by the need for coordination, will be the appearance of control. Most scholars would probably contend that an atmosphere free of control is necessary for real research. Again, how the endeavor is presented is crucial if there is to be support in the library and university communities.

A Note on Dissemination

Research is of limited or no value if it is not applied to practice or used as the basis for further research. Therefore, it is imperative that the results of library research be reported to the profession through report series or by other means of publication. With the goal of having research applied to practice, active promotion is necessary for two reasons: first, to publicize the results; and second, to gain their acceptance and use.

Responsibility for the dissemination of research findings to individual libraries should rest either with the Department of Education or with the library consortia under whose auspices the research is conducted. Although individual researchers or research teams should be encouraged to publish their results, they should not be expected to aggressively promote the application of their work.

Funding Issues

New sources of support and financial commitment are needed to ensure ongoing success in developing and strengthening institution-oriented research within major research libraries and library consortia. These sources of support need to be motivated primarily by the production of a growing and reliable body of knowledge pertinent to the goals and objectives of librarians and information scientists. This motivation is very different from the primary motivation of major research libraries, library consortia, and their traditional sources of support. This community is concerned primarily with producing knowledge that leads to incremental improvements in the service and development programs of specific libraries. It is, moreover, a community with such distinctive characteristics and such a strong mission orientation that the generalizability of its research findings will always be a reasonable concern. It also is a community with too many priorities, chasing too few financial resources, to play a very active role in pursuing a research agenda worthy of the name.

An early priority of any new source of support should be research projects which support the development of the research skills and tools of the professionals located in major research libraries and library consortia. It is a rare library education program, and perhaps even a rare information science education program, that can afford the time and resources needed to develop the research skills of its students to a level that allows them to understand and participate in

mission-oriented, let alone basic, research efforts. The skills and methods that are established by these rare programs quickly atrophy in major research libraries and library consortia because this community has traditionally emphasized bibliographic research, a relatively specialized and atypical research endeavor which needs to be updated in light of contemporary needs and technologies. And even that emphasis has greatly declined in recent years. The professionals in this community need to be targeted by a program geared toward raising the level of their understanding of and proficiency in the research enterprise in general; experimental design, including hypothesis generation, descriptive and inferential statistics, and ways and means for presenting findings and conclusions; and the pursuit of specific projects which will improve the quality of research in librarianship and information science.

A second early priority of any new source of support should be research projects which entail extensive contact and cooperation among major research libraries, library consortia, and other library and information science communities. Major research libraries and library consortia are ideal locations for market research and product research as well as for bibliographic research. This community provides well-defined groups of users who are experienced with the purposes and goals of research and are generally sympathetic to and supportive of any and all efforts which solicit their opinions about and cooperation in evaluating changes to existing products and services, assessing new products and services, and providing basic information key to designing new products and services. Findings from and conclusions about research in this community, however, need to be placed in a more general context, and this can be achieved only by ensuring that the same research is done in the same manner and subjected to the same analysis in other communities of information providers, users, and facilitators. In addition, for the foreseeable future, it is impossible to imagine that major research libraries, library consortia, and their traditional sources of support will be able to garner the resources required to develop the skills and acquire the tools to conduct innovative and quality research in their own community, let alone to place that research in its much needed broader context. The institutions in this community need to be targeted by a program that will encourage and fund their participation in broad-based collaborative projects which seek to improve the quality of research in librarianship and information science.

Two possible sources of funding for library research programs are of particular interest: the National Science Foundation and information industry firms. These two sources have been singled out for special attention because they have interests that span the nation, if not the globe; have a respect for and a record of involvement with basic as well as mission-oriented research; and at present are not, nor have they been in the past, significant sources of support for major research libraries and library consortia. The National Science Foundation could be called upon to establish a program to engender research skills and tools in major research libraries and library consortia and to favor collaboration with this community throughout its library and information science research program. The Council on Library Resources, the Association of Research Libraries, EDUCOM, or some other coordinating agency could be called upon to provide a framework for a program of research planning, priority setting, and fund raising and allocation targeted to private enterprise in general and information industry firms in particular.

Research Priorities

Bibliographic research is the primary form of research undertaken by major research libraries and library consortia. These institutions have direct access to the talents, information resources, and processing tools needed to perform bibliographic research, and the audience for the products of such research is a large and loyal one. The sources of support on which major research libraries and library consortia depend appreciate the value and necessity of bibliographic research, and they have a long record of funding both specific bibliographic research projects and projects devoted to improving the infrastructures which support bibliographic research.

However, bibliographic research is but one of the priorities that define the needs of major research libraries and library consortia. The other priorities are numerous and pressing in their own rights. They include, to name just a few, preservation and conservation, retrospective conversion, backlog elimination, automation and other forms of technological innovation, and service and support innovations. The claims being generated by these priorities are increasing in number and size, but the traditional pool of institutional, governmental, and philanthropic resources available to answer these claims is not.

This situation places bibliographic research at dire risk. In many major research libraries, bibliographic research has been or is being marginalized. Professional librarians who conduct such research generally do so on their own time, using their own personal computers and information-processing tools. Bibliographic research is generally understood as the achievement of an individual professional rather than as an achievement of the service and development program of the library in which the professional is located. It is particularly ironic that this marginalization is occurring just when the professionals at issue are being called upon to apply themselves to the support of bibliographic research projects of individual scholars and academic departments.

The same process is affecting the status of bibliographic research in library consortia and major research libraries. Highly motivated professionals located in individual members of library consortia continue to produce union lists and other bibliographic and information products, but it is becoming increasingly difficult for them to do so, and job changes and retirements for such professionals are inordinately disruptive. The policymaking, governance, and fund-raising attention of library consortia is focused, quite understandably, on the common causes that characterize newer priorities. The end result is that major research libraries and library consortia are not according bibliographic research priorities the standing they once had in either absolute or relative terms.

It is unrealistic to expect that major research libraries, library consortia, and their traditional sources of support will be able to reverse this trend in the foreseeable future. Bibliographic research can no longer be addressed and funded by the mission-oriented planning, priority setting, and funding perspectives and processes that characterize the relationships in this community. Major research libraries, library consortia, and their traditional sources of support are primarily interested in making investments which advance the state of the practical arts and sciences in specific libraries and consortia of libraries. The products of bibliographic research have traditionally been justified on this basis. Intense competition

for resources has led to a situation in which they must be justified instead, at least in part, on the basis of the value that such products have for libraries, and consortia of libraries, other than those in which the research is conducted.

UNIVERSITY-BASED MODELS: CREATING CENTERS FOR RESEARCH IN LIBRARY AND INFORMATION SCIENCE

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Introduction

The importance of information in modern society is now widely recognized. Complicating the role of information in our society is not only its large size and rapid rate of growth, but technological changes that interact very closely with the information base and influence our ability to store it, to access it intellectually, to transmit it, and to manipulate it. We are in the midst of a period of tremendously active experimentation and development, driven largely by this technological change.

The impact of these developments on libraries is already significant and likely to be much greater. Just 20 years ago, it was still possible to criticize as whimsical and irresponsible the suggestion that computers would play a major role in library operations. Today, it is commonplace for computers to be closely involved with the management of library operations. In conjunction with developments in communication technology that permit the efficient transmission of digital information, computers now permit a degree of resource sharing and effective access to information bases to an extent only imperfectly envisioned 20 years ago.

Future technological developments promise changes at least as great. Such changes will have an impact not only on library operations and capability, but on the very concept of what a library is. For much of modern times, the library was the only institutionalized means for access to extensive amounts of information. Today, the library's monopoly position in this area is challenged by the bibliographic utilities in what is emerging as a partially competitive, partially cooperative interaction. The emerging optical disk technologies, coupled with improved computer networking capabilities, are further extending the definition of what constitutes a library -- that is, what effectively constitutes the universe of public information and the mechanisms for gaining access to that information that are available to society's various publics.

Although research interest in these problems is great, it is diffuse. There have been many product-oriented and developmental investigations, but there has been almost no attempt to bring them together in a manner that permits a vision of the larger picture. If we are to understand the emerging information society and be in a position to make intelligent policy decisions regarding that society, many questions must be answered. Urgent research areas include:

- The properties of information
- Its impact on society
- Its dissemination and access
- Techniques for its control, storage, and retrieval.

Research in these areas will continue to grow in importance as the role of information becomes more widely recognized and the technology for controlling it becomes more complex.

Universities are in an unusually good position to carry out research on the impact of information on society. In our society, universities are regarded as the major source of disinterested, objective research in general. Research is the single dominant function of a university: its organization, its selection of personnel, its system of values, and its system of rewards all encourage the efficient production of excellent research. With regard to information, universities are unusually well positioned to assume a leadership role in the exploration of fundamental issues, being, at the same time, generators of information and themselves unusually dependent on the means available for exploiting and sharing existing information. The university is at once a consumer of information and information technology, a participant in planning for the information society of the future, and an important laboratory in which such studies can be conducted and experimental systems implemented.

Universities also have a number of structural advantages as sites for an interdisciplinary center for research in library and information science. For example, in addition to traditional departments, other centers of specialized research may exist, with interests that would relate to those of a center for library and information science research. Opportunities for sharing efforts with existing centers, each with its own specialized information needs, have the potential to increase the productivity of a university-based center for research in library and information science (referred to here as "the Center").

Yet, for universities to participate in such an enterprise, new mechanisms would have to evolve. At a time when society most needs a deeper understanding of the nature and control of information and its implications for society, our nation's major universities are withdrawing their interest in these issues. While cooperative research involving a range of disciplines is now in greater demand at universities than ever before, university faculties generally see research about libraries as irrelevant to themselves and to the fundamental mission of the university. To some extent, library researchers have failed to communicate the importance of their work to their colleagues. Also, and more seriously, researchers in librarianship have not asked the questions that would excite their colleagues; and they have not approached the questions that they do ask with a rigor that wins the respect of their more discipline-oriented colleagues.

We see several conditions that would be useful for the success of the Center:

- It should be interdisciplinary. Many immediate and important issues in librarianship relate to information technology -- especially, computers, information storage technology, and networking technology. Thus, it would be advantageous to build the Center within a university that had a strong computer science department with faculty interested in the issues on which the Center would focus. In particular, researchers in the fields of information retrieval (theory and application), artificial intelligence, computational linguistics (including lexicology), and computer networking should be represented. Expertise in the social sciences is also important, including cognitive psychology, linguistics, sociology (including the history and sociology of science), bibliometrics, and management and operations research.

- It should have access to expertise on the many issues concerning libraries. Although the library is the largest and best established institution involved with the dissemination of information, the complexity and difficulty of the problems associated with libraries are often underestimated. These may range from the technical issues of bibliographic control and public service to policy concerns involving economic questions, national education policy, and services to children and other special publics. Clearly, the existence of a school of library and information science at the university where the Center is based would be a significant advantage in satisfying this requirement, but it should not be considered a necessary condition.

- It should have a permanent and substantial group of faculty whose fundamental concern is with the problems of information access. Such a group would provide the necessary "critical mass" to maintain the focus of the center, stimulate each other's research activities, and, by virtue of their efforts and accomplishments, attract the interest of colleagues. Although the Center must draw members from a variety of departments, great care must be given to the selection of the initial core to ensure a group able to pursue research of the quality acceptable and most attractive to a critical population of colleagues.

- It should be created in a university with an established record of excellent research productivity. This would ensure immediate national credibility for the output of the Center, create an environment conducive to good research, and provide a base of research expertise on which the Center could rely.

- It should be institutionally stable. This would be particularly important in the early stages of the Center's development, when faculty established at other universities would have to be attracted. In particular, ample and long-term funding commitments should be made at the time the Center is formed. Means for ensuring

tenure for senior participants, either within the Center or in other departments of the university, should be established.

- Ideally, the library of the university should be interesting (for example, because of its size or the character of its collections), and its management should be interested in cooperating with the Center. In order to carry out its research programs, the Center would require library expertise to supplement that of its own members in such complex professional issues as bibliographic control and public service. It would also be valuable for the university's library to share in the research activities of the Center, taking on some characteristics of a Center "laboratory."

- Geography might also be an influence. Ideally, the Center should be placed in a region having a high concentration of information-related and information-dependent industries. This location would be an asset in generating support for a program of information studies, in terms of both prospective donations of funds and equipment and the availability of highly skilled personnel to contribute to the program.

The Program

An important issue is whether the Center should only conduct research, or should also have responsibilities for teaching. Below we outline a possible program that includes both components. That is, we expect that the Center's information studies program would be interdisciplinary, possibly being made up of two closely interacting levels -- one research oriented and centering around faculty and doctoral research, the other professionally oriented.

Research Program

Faculty development at the Center would concentrate most strongly on the research component of the program. This is potentially much broader than the professional component and might well include any of the disciplinary interests that impinge on, or illuminate, the use or impact of information. The focus of the program and the initial efforts of recruitment (from within or outside the university) should be in the area of computerized information retrieval and processing, including the following specific research topics:

- *Information Retrieval.* This area of research would include text access and manipulation, networking, theoretical and mathematical aspects of information retrieval, and the architecture of distributed full-text and information-sharing systems. Problems of storage technology, multimedia storage, and access, as well as new structural models for text organization, would be included here.

- *Linguistics and Artificial Intelligence.* This area would include analyzing documents and representing their contents for retrieval (manually and automatically), design of front-end information retrieval systems, and knowledge representation (including

implications for bibliographic control). Areas of cognitive psychology -- such as memory models, coding of information in the human brain, and information retrieval -- would be included, as they may have implications for designing computerized information retrieval systems, including those based on expert systems.

- *Database Organization.* Conventional database models, as well as newer models based on object-oriented programming concepts, would be addressed.

- *Quantitative Methods.* This would include information theory, analysis of data, decision theory (including operations research techniques and mathematical programming), bibliometrics, clustering, citation analysis, and analysis of citation nets.

- *Implementation.* Given an appropriate understanding of the conceptual problems identified above, an entirely new class of problem arises -- problems of implementation. These entail questions of database organization, efficient search techniques, communications, and distributed computing.

- *Economics of Information.* This area would include research on microeconomic models of the role of information in organizations, and analysis of the impacts of information, information technology, and information policy on society. An interesting subfield would be the economics of publishing and the relationship between publishers and libraries.

- *Policy Issues.* The Center could investigate the role of government in the provision and dissemination (or constraints on dissemination) of information, rights of access to information (and control of information), copyright, legal protection of privacy, public libraries and charges for information, history as a guide for policymaking, and the role of information in policy decisions.

- *Information Networks.* This area would include research on libraries and the information industry, bibliographic control, systems for sharing bibliographic data and information resources, and online information services.

- *Psychology.* Studies in this area might include memory, learning, how people receive, process, and respond to information in various formats, and the impact of reading on children.

- *Communication.* Research topics could include communication within organizations and communities and between individuals, through formal and informal mechanisms. This research area could be enriched by, and enrich, current research in the field of social psychology.

Of course, no single program could encompass all of these topics, but all are relevant and, as a long-term goal, should be considered as part of a complete

program in information studies. Some of these subjects might be covered by bringing together people already at a university. Others could be addressed by faculty brought to the university with joint appointments in the Center and other departments in their respective disciplines.

Professional Program

A professional program, if it were part of the Center's responsibilities, would be directed toward preparing students for careers in information-related professions. We expect that many (or, initially, all) of its students would find work in libraries. Over time, however, an increasing number of students might be interested in the areas of database development, access, and maintenance in business and government environments. We envision that a professional program would include areas such as the following:

- Library education, with emphasis on automation, information retrieval, and management, but including the application of these skills to serving the broad variety of library client groups (also relevant here are program development, collection development, bibliographic control, and public services)
- Technology, including computer, communication, and information storage and retrieval technologies
- Office automation, including electronic conferencing, mail, and publishing
- Organization of information for access, including indexing and classification, thesaurus construction, and vocabulary control
- Database organization, including models of databases and problems of maintenance
- Management skills
- Methodological skills, such as programming, statistics, and research methods.

Although such a program would be based on permanent full-time and shared faculty, it might also rely strongly on the relevant professional staff of libraries and industry in the area.

Advantages of a University-Based Center

As compared to other possibilities for a library research center, the university-based center would have a number of advantages. Some are structural -- for example, the existence of a physical plant and an experienced support staff familiar with centers of the type proposed here and with the means of attracting funds to such centers. Also, expertise in many disciplinary areas would already be on site and would not have to be recruited. There are two characteristics, however, that would most saliently distinguish a university-based research center:

- A university-based center would most appropriately concentrate on pure or basic research, that is, research not addressed to an immediate need or to a transient problem. Such research, which would be conceptual in character, attempting to establish a theoretical base for the profession, is much needed today. Also important for the profession is the development of non-obvious approaches and methodologies that would respond to whole categories of problems rather than to a single problem of current concern. University-based centers could accept applied research projects, but it is with basic research that universities have the most experience and in which they are most likely to excel. One would also expect university-based centers to carry out research with a rigor that would be consonant with established procedures for acquiring valid knowledge.

- The second particular quality and advantage of basing the Center in a university is the availability of advanced students. Students would be attracted to the Center by a strong faculty; and, if carefully selected, they would contribute to the goals of the Center through their own independent research efforts, participation in research seminars, and working with senior Center members. It is through these contacts that a university-based Center would have one of its most important impacts: the training of a future generation of scholars.

A Model for the University-Based Center

A center such as that described above would be fundamentally different from anything that currently exists. Schools of library and information science, as they are now configured, are too small to arrive at the critical mass required to generate large, organized research endeavors. No library school, as presently staffed, can assume responsibility for broader research concerns without additional human resources. More importantly, a faculty or staff should be selected expressly for the purpose of the Center.

Importance of the Center

As clearly shown by the research agenda proposed in Rethinking the Library in the Information Age, many large problems that need to be solved in the information disciplines are not presently being addressed. Recognizing the imperative that researchers undertake these problems, the question is: How will the research community organize to respond?

The research community as it now exists is ill-equipped to undertake large-scale mission-oriented research. Few programs of library and information science have the breadth and depth to respond to large-scale research projects: they are too small, isolated from other units of their universities, and subject to heavy demands to educate Masters level students. Even the larger schools have too few specializations, and their faculty have substantial administrative responsibilities and commitments to doctoral or certificate level education. On the other hand,

existing library schools should be able to interact easily with an interdisciplinary Center.

Most doctoral programs in library and information science already require interdisciplinary experience in their courses of study. What is needed now is a mechanism to extend and institutionalize this interdisciplinary perspective in the form of a research center, or centers.

The University and the Center

Centers, once established, can be unstable. It is not enough that a few faculty interested in library and information science generate a proposal for additional funding to establish specialization. To create institutional support, attract appointments to the Center from other departments and institutions, and provide for reasonable stability, the idea of a Center must be consistent with the mission of its host institution. Several key issues must be addressed in defining the role of the Center within the university, including:

- The relationship of the Center to the goals of the university
- Control of the Center
- The future of the Center when institutional resources are scarce
- Full legitimization of non-teaching functions in relation to university goals
- Dual systems of personnel policies.

What would be the relationship of the Center to the goals of the university? Certainly, issues of information provision and technologies are pervasive enough in modern society that the larger goals of a Center should agree with the parent institution's goals. For instance, "technology transfer," an area of inquiry of considerable interest to universities, certainly would be a concern of a center for library and information science. A crucial first step in identifying institutions wherein a Center might be appropriate would be to obtain from key administrators a commitment to this area of study within their institution. At the same time, support for other departments whose faculties would join or interact with the Center should be ensured.

Who would control the Center? This question is intertwined with the first. For reasons of career stability, faculty would need assurances from their home departments that traditional contractual agreements would be honored, and that participants in the Center's activity would not be penalized when promotion and tenure considerations were made. To protect faculty in this way, university-based research centers generally are placed in the university's administrative structure under a vice president or vice chancellor for research, whose authority legitimizes the activities of the center.

What would happen to the Center when institutional resources were scarce? The model of the water research center funded in each state by Federal dollars is one example of a center with such strong external support that integration into the

organizational structure of the university has been achieved. While local funds may be lesser or greater depending on institutional stability, a cadre of researchers is developed that enables these centers to seek external funding more competitively. Ostensibly, in the case of a center for library research, with adequate startup funding, other funding sources could be strengthened as a means to maintain support. Clearly, as has been shown with other centers, a strong entrepreneurial director would be required, with the vision to see the work through.

How would the non-teaching functions of the Center be legitimized? Although the Center might not engage in ongoing classroom instruction, opportunities for education would be there nonetheless. Students and faculty would gain the broad perspective that comes from interdisciplinary inquiry and would benefit by appointment to the Center. While research and public policy studies would be ongoing non-teaching activities of the Center, the university would also benefit in terms of educational opportunities.

How would the question of dual personnel policies be addressed? While some institutions have undoubtedly faced and solved this problem, others have not. There are wide variations in personnel policies governing the professional staff of existing university-based research centers. While some participants are tenured in home departments, many others are appointed to "research" ranks that hold no security vis-a-vis promotion and tenure. When asked why individuals are willing to work under such nebulous circumstances, one director answered: "They are driven by a commitment to their research." However, this instability has not been a good situation for some center personnel, as even those with extensive, productive service records can be laid off during hard budget times if tenure protection cannot be invoked. Thus, it is important, if centers are established, to ensure that clear personnel policies exist.

Once these questions are answered (and for purposes of this discussion we can assume that they will be), it is possible to surmise what mechanisms of control over centers should exist.

Control of the Center

Center control usually derives from three areas: academic departments, advisory committees, and external funding agencies. Although many variations might arise, we suggest a combination of controls as best meeting the Center's need for stability and best encouraging mission-oriented research.

Academic departments provide vertical control for those centers that provide "home department" status for their personnel. It can be expected that Center personnel would still be held accountable to the same promotion and tenure criteria as their colleagues in departments; however, most major universities have developed promotion and tenure criteria that account for such varieties of appointment. Thus, the three-pronged evaluative criteria of "research, teaching, and public service" may be modified to fit the situations of Center personnel as need arises.

Advisory committees provide interdisciplinary legitimacy. Placing department heads from represented departments on a Center's advisory committee would give the Center authority. Through deliberations over matters of policy, a cross-section of university administrators could be brought to accept the Center's goals. Without

such diverse representation, the Center, like a small academic department, would operate in isolation.

Funding agency control would vary, depending on the amount of support provided. Certainly, a funding agency that provided the majority of support for a Center would have strong oversight interest in the Center's products. If a research agenda has been set at a different site and Center personnel have subscribed to this agenda, there should not be major difficulty in accommodating mutual goals. However, as is ever the case with outside funding, channels of communication must be clear, and the reporting structure should be responsive.

Functions of the Center

The most appealing characteristic of centers is their facilitation of interdisciplinary research. How would this come about? Even if funding were no problem, how would one field attract members from another? Traditionally, centers have arisen when significant amounts of money have been available for mission-oriented research. If funding levels were great enough and sufficient prestige were associated with the Center's research enterprise, it is likely that individuals from diverse institutions could be brought together to work on research problems in library and information science.

The research function of the Center would include the concentration of talent from different disciplines, a mechanism for identifying funding, and a program for disseminating research results. If a research strength existed at a given university, and if it could be demonstrated to potential funding sources that a team could be assembled with a combination of local talent and faculty on one-, two-, or three-year appointments from other institutions, the critical mass could be achieved to generate research.

Making an impact on public policy is another function of centers. Many centers are the direct result of governmental policy decisions. For example, the diversified network of education centers is the result of Federal legislation that deemed educational research improvement a matter of public policy. Center personnel, like faculty in disciplines, have responsibility for disseminating the results of their research to the field; however, since dissemination patterns through traditional routes are generally slow, the Center can be viewed as an alternative mechanism for promoting the results of research. Centers are likely to be viewed as synthesizing organizations that filter the results of research into meaningful packages to be delivered to funders for action. The autonomy of the Center lends a different sense of urgency to the results of its research.

Establishing a Center

The following sets out a possible scenario for a university-based center for research in library and information science. We recognize as we select one type of focus that the best approach might be to select three or even four sites and superimpose similar guidelines.

Let us assume that the Department of Education has made a policy decision to fund a "Center for Study of the Impact of Information on Society." A request for

proposals is issued, and schools are requested to compete for funding. A university is selected and the Center is underway.

University Configuration

The school selected for Center funding has established institutional support prior to application. An agreement has been reached that permanent faculty assigned to the Center will retain appointments within academic departments, but their evaluation will be based primarily on research and public service criteria. The funded school has already sought out a cadre of faculty in different disciplines whose research agendas are in some conformity with the Center's mission. Faculty from communications, computer science, journalism, electrical engineering, and sociology have indicated a strong interest in Center appointments. Space has been provided, and "in-kind" resources, such as space and basic computing equipment, have been allocated.

Center Configuration

Funding has been provided for a full-time Director of the Center. As has been the case with successful centers in other areas, the Director will be selected on the basis of a multidisciplinary perspective, the capacity to see research teams through to completion on projects, and an ability to work well with a diverse advisory structure. The Director will be a risk-taker with an understanding of the field's research needs and funding resources.

Acceding to the realities of academic life, the ideal person to fill the position of Director will be a tenured professor, whose security will not be dependent on the Center but whose commitment to the Center concept will be strong. This is not to say that if a Director can be found who is willing to take on responsibility for the Center without the protection of tenure that such a person should not be engaged. However, since it is unlikely that a Center can be created out of "whole cloth," the services of an established faculty member at a university willing to accommodate the Center will be invaluable in working through the extant hierarchy, attracting peers from other departments, and assuring visiting scholars an element of stability.

In addition, funding has been provided for a full-time research associate for technical or systems assistance and a full-time administrative secretary with knowledge of the grants process. Personnel funds are set aside for the hiring of short-term clerical personnel to meet deadlines and get large-scale projects underway.

Three "open" positions are funded to draw in faculty and research experts as "team leaders" to undertake specific projects. These positions may be filled internally or through a "visiting scholar" appointment at a level of sufficient support to attract premier researchers.

In addition, slots are created to hire Masters, advanced study, and doctoral level personnel for assistance for specific projects. One of these may be a post-doctoral slot -- a concept familiar to academic disciplines in general but new to library and information science research.

Conduct of the Center

An advisory committee made up of representatives from involved disciplines, representatives from the major funding agency, and external experts will advise the Center on policy and direction. Ostensibly, a large-scale project has been established to begin Center investigations. From this large-scale project will come "spin-offs" related to the primary research mission but creating new areas of inquiry. As these new areas emerge, the Director will work with different outside funders -- associations, industry, and foundations -- to gain additional support.

Faculty will cycle in and out of the Center. As research projects are completed, new configurations will be assembled. The Director and the permanent staff will develop a dissemination plan to ensure that the work of the Center is communicated not only to primary funders but to the library community as well. As the Federal and state governments forge legislation relating to information issues, the Center staff will give testimony at hearings, provide analysis for decisionmaking, and work to integrate the results of Center-based research into the fabric of modern society.

If more than one center is established, a network can be formed for communication among the centers (as is the case with the dispersed water centers and educational centers that already exist). The outpouring of research results from the Center will demonstrate the crucial role of the data gathered in shaping the direction of an information-based society.

Funding for the Library Research Center

The scenario described above is based on the assumption that funding will be available for the Center. It is unlikely, however, that any of the current schools of library and information science will make the leap into "big science" -- at this juncture it would be acceptable to encourage "medium science." Yet, as important as the issues to be confronted are, they are not, today, bread and butter issues. The questions that need to be addressed by the Center are more subtle, and they are not characterized by overwhelming urgency.

The Center must have *sustained funding* in order to demonstrate its importance to the future of the information society. An initial commitment of five years seems optimal. At this point, however, we are not suggesting the dollar amount needed. Funding for the Center could be solicited from the commercial sector as well as the government sector. Contractual work -- such as data gathering and data analysis -- could also provide ongoing funds for the Center's operations.

Conclusion

There is much to be studied in library and information science. Significant questions that may drive Federal and state information policies remain to be answered. There is not a large "brain trust" in the field, for reasons related to the small size of existing library and information science units on university campuses and the rigorous demands of teaching. We are in agreement that library and information science research requires a solid infrastructure to move to new

levels of conceptual analysis for decisionmaking. We recognize that the solutions required to build this infrastructure may be very different from those proposed here.

However, it is our consensus that any research infrastructure should be built on existing strengths, and that concentrations of research-directed faculty do exist to some extent in schools of library and information science. Thus, it is our contention that one or more autonomous research centers should be established, allied to schools of library and information science but allied to other disciplines as well. The concepts of centers and institutes are understood by universities, and most have mechanisms to provide for the establishment and support of research centers. In most cases, however, existing centers are the result of significant infusions of external funding that have provided startup funds, some ongoing stability, and intellectual interaction related to the missions of the funding agencies. We propose that funding should be sought to move library and information science to a level of sustained inquiry through the establishment of one or more university-based centers for excellence in research.

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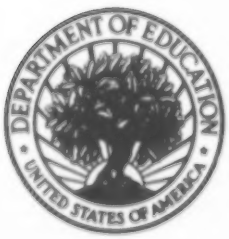

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